EXHIBIT B

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION

IN RE: ETHICON, INC., PELVIC REPAIR SYSTEM PRODUCTS LIABILITY LITIGATION	**Master File No. 2:12-MD-02327** **MDL 2327** **JOSEPH R. GOODWIN** **U.S. DISTRICT JUDGE**
THIS DOCUMENT RELATES TO: ***Rose and Jesus Gomez v Ethicon, Inc., et al*** ***Case No. 2:12-cv-00344***	

Julie Drolet, MD, FRCSC, FACOG, FPMRS

Expert report in the Rose Gomez case

02/29/2016

Background and Qualifications:

I obtained my medical degree from the University of Montreal Canada in 1988. I then went on to complete a residency in obstetrics and gynecology, in Montreal as well and graduated in 1993. In the following year I did a one year minimally invasive laparoscopic and hysteroscopic fellowship in Clermont-Ferrand, France. I have obtained certification from the Quebec Board of Specialties, The Royal College of Physicians and Surgeons of Canada and American Board of Obstetrics and Gynecology. In June 2013, the first year the certification exam was conducted, I became board certified in Female Pelvic Medicine and Reconstructive Surgery.

In 1994, I began my career in a group setting, tertiary center and university teaching hospital at Notre-Dame Hospital in Montreal Canada, where I practiced until August 1997. Through a recruiter I found my way to York Pennsylvania joining a solo practitioner until he passed away in 1998. Since then I have been in a mostly solo practice. I have been teaching residents in obstetrics and gynecology since 1994. I have devoted my part of my career to general obstetrics, which I stopped in 2008, and mostly gynecology with a special interest in urogynecology, focusing on pelvic pain, pelvic prolapse and incontinence. I have performed most surgeries through a minimally invasive approach. By my training, I am familiar with, laparotomy (open) prolapse and incontinence surgeries, laparoscopic and robotic techniques as well as vaginal approaches.

I have witnessed and participated in the evolution of our understanding of pelvic organ prolapse and incontinence. During my fellowship, the surgical treatment of pelvic floor prolapse and incontinence was innovative and the use of minimally invasive technique was very different than the traditional repairs I learned in my residency training. Since 1994 I have performed laparoscopic sacrocolpopexies, intra-peritonal colpopexies, para-vaginal repairs and Burch urethropexies. In our quest to help patients, keeping in mind decreased morbidity and mortality, I have also performed thousands of vaginal surgeries with and without synthetic mesh for pelvic organ prolapse including but not limited to colpocleisis, traditional anterior and posterior repairs, sacrospinous ligament fixation, uterosacral ligament colpopexies, Prolift and Prolift+M and anti-incontinence procedures including retropubic and transobturator midurethral slings. In the last few years, I have also developed experience in the management of chronic pelvic pain along with correction and repair of mesh complications as well as treatment of patient's symptoms.

Throughout the world, not just in the USA, there has been a need for better understanding and better repair techniques. Open laparotomy techniques of repair are associated with a significant increase in infection, pain & recovery time. With our aging population as well as the ever increasing rate of morbid obesity, even the laparoscopic or robotic approach are placing patients at increased risks compared to a vaginal approach. It is this with this understanding that the need to improve the durability of repairs that has led to the notion of augmentation or reinforcement of the already weakened pelvic support.

I have used the Prolift device, starting in May 2005, and later on the Prolift+M. I have also used the TVT and the TVT-O and have experience with the outside in technique as well. I am familiar with their training and the information provided to surgeons, including IFU's, videos, Surgical Technique Guide and Surgeon's Monograph, other training materials as well as patient brochures. I have also used other types of mesh. I am aware of the FDA public health notices of 2008 and 2011. As a urogynecologist, it is my professional obligation to keep myself up-to-date with the current literature including peer reviewed applications regarding synthetic mesh.

In preparation of this report, I have reviewed Mrs. Gomez's medical and pharmacy records that have been made available, although some are still missing, and have read her deposition. I have read the depositions of Dr. Ehsani (Silver) and Dr. Albrecht along with the plaintiff's expert reports offered by Dr Ostergard, Margolis and Garely. I also considered the published medical literature available until 2009, as well as literature since that time. In forming my opinions, I also considered my own training and experience. All opinions offered are held to a reasonable degree of medical certainty.

Pelvic Organ Prolapse:

Issues of pelvic prolapse and incontinence are increasing in prevalence in the United States and around the world as women are living longer. It is estimated from the Women's Health Initiative and various other studies that the prevalence of incontinence varies between 25 and 50%, and the prevalence of prolapse although based on a particular definition of prolapse varies between 15 and 41%. Both can coexist and the incidence increases with age. It is estimated that 11% women have a lifetime incidence of undergoing pelvic organ prolapse surgical repair. Market data showed that in 2010, 260,000 women underwent surgery for stress incontinence, 80% were done transvaginally with synthetic sling mesh. Approximately 300,000 women underwent surgery for pelvic floor prolapse either as in or outpatient, and approximately one third used mesh, of those three quarter were performed using a vaginal approach.

Although pelvic floor prolapse is not an immediate life threatening condition, it is a medical condition that is more than just cosmetic, as it also can affect quality of life in a substantial manner. Most women will not be aware of their prolapse until it descends to the hymen and beyond, or until the development of new symptoms. Pelvic pressure, discomfort with activities and the feeling of bulging within the vagina are frequently reported as the prolapse worsens. Some patients become uncomfortable with intercourse, not only due to a negative body image issue, but depending on the compartment prolapse and associated midline fascial defect, there can be forceful pressure directly onto the bladder or the rectum, increased forceful displacement of the prolapsed vaginal apex or uterus within the pelvis, causing intercourse to become physically uncomfortable and even painful. Once the cervical or vaginal mucosa has descended beyond the hymen, it does come in contact with the patient's underwear or pads which can lead to irritation, ulceration, abnormal discharge, bleeding and chronic infection of these mucosa. Women have been known to put Vaseline, Crisco, diaper creams and various over the counter creams and lotions as these symptoms progress.

Anterior wall prolapse symptoms can include frequency, urgency and incontinence, as well as symptoms of hesitancy, difficulty voiding, incomplete bladder emptying, recurrent urinary tract infections, and at its worse, retention, hydronephrosis and kidney damage.

Posterior wall prolapse symptoms include pressure or bulging symptoms with accumulation of stools within the protrusion, difficulty with defecation leading to excessive straining or assistance with splinting or fingering in order to empty out the rectal ampulla, as well as fecal smearing and incontinence. Conversely, functional disorders such as chronic constipation or dyssynergic defecation can coexist with a posterior defect but are often mistakenly attributed to a visible rectocele or perineocele. Surgical correction in these patients will often lead to good anatomical success without treating the underlying cause and will not meet patient's expectations.

At a minimum pelvic organ prolapse symptoms are a quality-of-life issues which interfere with a woman's sense of well-being. As progressive bulging, urinary and/or fecal symptoms and odors develop along with their associated embarrassment, negative body image and/or painful intercourse leading to decreased interest in intimacy and eventually social isolation starts to occur. Women are gradually forgoing trip outings, social gatherings, and even family outings. Women suffering from symptomatic pelvic organ prolapse also start to decrease their level of physical activity and exercise, decreasing their quality of life, but this can also lead to medical problems, weight gain and associated negative impact on overall cardiovascular health.

Pelvic floor prolapse is not just a cosmetic issue, it is a well-recognized medical condition for which various forms of pessaries and belts have been described through the ages, until surgical options have been become available in the last two centuries.

Multiple studies have been conducted to evaluate the benefits of pelvic floor exercises (Kegels), but most have a short follow up and are underpowered. Although some show improvement in urinary stress incontinence and some protection in cases of stage I prolapse, none of these studies conclude that pelvic floor exercises have any benefits to treat organ descent below the hymeneal ring.

Modern pessaries are made of silicone and are an option if the patient can be properly fitted, is willing and able to care for the pessary. In order to defy gravity and keep the pelvic organs up above the hymen, not only at rest, but during time of straining, lifting, or physical activities, it must be larger than the vaginal introitus. The pessary rests against the levator ani muscle complex, and for some women is thus uncomfortable and problematic. In most situation, due to the size of the pessary and its firmness, intercourse can be difficult with the device in place and women need to be able to remove it or have her partner willing to do so. Since the pessary also needs regular cleaning a woman must be able to remove it, or be willing to come to her physician's office or have a home care nurse pull the device out, clean it, inspect the vaginal walls and cervix, and finally reinsert the device. Despite these cleanings, women are encouraged to insert vaginal estrogen or low-dose antibiotic gel periodically. Without this, most will experience a greenish foul-smelling discharge due to bacterial overgrowth as this pessary resides in a non-sterile environment of the vaginal lumen. Despite a well-fitting pessary, previously continent women may become incontinent. One explanation is that once the prolapse is reduced and the vaginal angle repositioned, thus unkinking the urethra, stress urinary incontinence will be made clinically evident. Another explanation is that mechanically the pessary can put pressure on the bladder causing irritative voiding symptoms, or by compressing directly the urethro-vesical junction, cause incomplete bladder emptying and abnormal voiding issues. Complications from pessary use include cervical and vaginal mucosa infection, ulceration and erosion of the underlying fibromuscular layer and organs. These incarcerated pessaries have also led to vesico-vaginal and recto-vaginal fistula with devastating consequences.

It is no wonder most studies show that despite most women being able to be fitted with a pessary, after one year of use, less than half continue this mode of therapy and the rest opt for a surgical intervention.

The debate for the optimal route of pelvic prolapse surgery has been going on for almost 100 years. Until the advent of laparoscopic and robotic surgeries for prolapse in the last 20 years, the risk of additional morbidity via laparotomy incisions has meant that the vaginal approach should

be encouraged whenever possible. A surgeon must consider the type of prolapse, their own surgical skills and expertise as well as patient factors including obesity, previous abdominal and pelvic surgeries and other medical co-morbidities, when deciding the route of surgery.

Obliterative procedures such as colpocleisis, are the least invasive of all prolapse surgery. They offer low rates of surgical complications and excellent long-term results. These should be reserved for women who are absolutely certain they will never want to be vaginally sexually active in the future.

Vaginal prolapse surgery to maintain a functional vagina without graft augmentation, basically involves trying to reattach or correct a defect using the patient's own, already weakened tissue. The quality and strength of a patient's vaginal mucosa, ligaments and fibromuscular layers will influence the resilience and longevity of the repair as these are the same tissues that have failed and contributed to the prolapse in the first place.

The anterior vaginal wall is the most frequent location of both primary and recurrent prolapse. Even comparing standard anterior prolapse to standard plus mesh and to ultralateral anterior colporraphy with median follow up of less than 2 years, anatomical cure rates were disappointing (Weber, 2001). Other factors will influence recurrence including tobacco smoking, not just at the tissue level but with its associated chronic cough. The failure rates for these traditional repairs have been cause for concern as repeat surgeries, on a now older patient with increased medical morbidity, in a previously scarred vagina can cause even more overall morbidity. When one considers that a woman who undergoes pelvic floor surgery at age fifty, might live into her mid-eighties, most studies do not currently reflect the true long term effects of our procedures.

Abdominal and vaginal paravaginal repairs, are surgeries that have been around for decades. In the last 20 years, surgeons have introduced the laparoscopic approach. They are intended to recreate the level 2 support at the Arcus Tendineus Fascia Pelvis (ATFP), which restores the mid vaginal physiological axis. It involves dissection to the pelvic sidewall bilaterally and demands constant visualization & vigilance to be able to position multiple permanent sutures through the lateral portions of the vagina and pelvic side wall. This surgery is most difficult in obese women or women with hip mobility when preformed vaginally. The risks of this procedure include the above and hemorrhage from the pelvic vasculature, nerve damage due to the extensive dissection throughout the fibromuscular layer, ureteral and bladder injuries. The vaginal paravaginal repair was recently quoted as a technique with “complication rates seem unacceptably high” (Brubaker, 2010).

Traditional posterior repair involves midline plication of the fibromuscular layer using interrupted delayed absorbable sutures, resection of excess vaginal mucosa an in most cased it is associated with a perineoplasty in which the diameter of the introitus is reduced. Although most studies have involved a small number of patients and short-term follow-up, traditional midline plication of the fascia is preferred over site-specific defect repair for success rate, and that the rate of dyspareunia is the same. Levator ani plication has been implicated in worse dyspareunia outcomes. Occurrence of post-op sexual dysfunction is well known and has been cause for concern after rectocele repairs especially if concomitant urethropexy of Burch (Weber, 2000). Symptoms of splinting, straining, incomplete evacuation and obstructive defecation present before surgery, may or may not improve post-surgical repair (Paraiso, 2001). Surgical repair of posterior prolapse does not assure complete resolution of symptoms (Sung, 2012). Straining was decreased from 74% pre-operatively to 23% post-operatively. Incomplete evacuation and obstructive defecation persisted in 19% and 14% of patients respectively. Splinting was found to still be present in 23% (compared to 56%) and was associated with a longer history of splinting before the surgical repair. Even native tissue repair, with or without associated hysterectomy, can lead to pelvic pain, dyspareunia (18-38%), issues with incontinence and all other general risks associated with surgery and anesthesia.

Vaginal native tissue procedures that suspend the apex include: Sacrospinous ligament fixation, where 2 to 4 permanent and/or delayed absorbable sutures are placed through the sacrospinous ligament lifting the vagina or cervix on the right side. This deviates the axis of the vagina posteriorly and laterally, usually to the right side. It is associated with a higher recurrence of anterior vaginal prolapse (28.8%) and stress urinary incontinence (Morgan, 2007). Complications include hemorrhage from the internal pudendal vessels or hypogastric venous plexus, nerve injury to the sciatic, or pudendal nerve. Rectal and ureteral injuries can also occur. Moderate to severe buttock pain has been reported in 55.4% immediately post op and, although decreased in intensity, as many as 15.3% reported to have ongoing pain beyond 6 weeks. (Unger, 2014). Vaginal stenosis and dyspareunia (20-36%) can occur. Similar data have been reported for the uterosacral ligament suspension. Suture erosion as those are often synthetic/permanent, and granulation tissue are often seen (15-40%) with either procedure. Sacrospinous suture related complications are reported in 36% of patients with 70% of symptomatic women requiring deep suture removal (Toglia, 2008).

Iliococcygeus fascia repair is similar, but results in a more posterior displacement of the vagina associated with an increased recurrence of prolapse of the anterior vagina. McCall/modified McCall culdoplasty & High Uterosacral Ligament suspension. This involves either a hysterectomy or usually opening the vaginal cuff with intraperitoneal access. The vagina is then attached to the cardinal ligaments and uterosacral ligament as well as peritoneum. Complications include injury to the ureters (2-11%), suture erosions, infection with pelvic abscess, hemorrhage, bowel and bladder injury. Recurrence, or new prolapse can occur, as well as dyspareunia (22% for the modified technique are documented). Recently a retrospective chart review that also

included patients from the OPTIMAL and OPUS trial of 983 women who underwent an uterosacral colpopexy amongst other concomitant procedures reported a composite recurrent prolapse rate of 14.4% at only 6.9 months follow up. Granulation and suture erosion of the apical vaginal mucosa was reported at 10.7%. Their rate of ureteral injury was 0%, but they do report a 4.5% ureteral kinking that required surgical or radiological intervention (Unger, 2015). The 2015 Up to date report on surgical repair of vaginal apical prolapse mentions a dyspareunia rate of 36% in the sacrospinous ligament fixation.

Nowadays many gynecologists and urogynecologists believe that the high recurrence rate may result from failure to address the descent of the uterus or vaginal vault concomitantly. Meaning, the key to a successful surgical prolapse repair is suspension of the apex, keeping in mind that the pelvic floor is a dynamic structure. Surgery in one compartment, by displacing the vaginal axis may place pressure/traction on other compartments that may also have been weakened, but not yet clinically visible or symptomatic and may cause prolapse or incontinence. Most pelvic floor surgeons consider level 1 support critical in the long term success in maintaining the appropriate distribution of forces within the pelvis as well as prevention of recurrences of the initial surgery along with prevention of other compartment failures (Withagen, 2010).

Studies have shown that concurrent pelvic organ prolapse surgery at the time of hysterectomy and pelvic organ prolapse as an indication for hysterectomy are significant risk factors for pelvic organ prolapse later in life (Lykee 2015). Women undergo hysterectomies for a number of reasons. In a study evaluating data from 154,882 women who underwent hysterectomy for benign indications, including abnormal uterine bleeding, pelvic organ prolapse, endometriosis, benign ovary tumors, pain, fibroma, and polyps, recurrence of pelvic prolapse most often was associated the initial indication for the hysterectomy was a diagnosis of pelvic organ prolapse. Risk factors for pelvic organ prolapse are well known, and include advancing age, race, menopause, connective tissue disorders, obesity, vaginal parity, and smoking.

Risk factors for recurrent POP after surgery include age, a 3-fold increase if a woman is less than 60 at her index surgery, as well as a more advanced prolapse stage (Whiteside, 2004). Other factors include obesity and chronic lifting or coughing, by increasing pressure directly on the pelvic floor, as well as multiple compartment prolapse.

True incidence of prolapse recurrence is difficult to ascertain as many studies have only a short-term follow-up and have lost patients to follow up. Traditionally a 30 to 50% recurrence rates were used. Only in the last few years, have some reports state a less than 15% recurrence, as the definition of surgical success has been relaxed to include Stage II down to and including the level of the hymen, as well as more subjective QOL issues. These reports still have limited length of follow-up, most randomized studies are underpowered, and contain incomplete data

due to lost contact with patients. The OPTIMA trial (a RCT study published in 2014) defined success as no apical descent greater than one-third into the vaginal canal or descent of the vaginal wall below the hymen and no bothersome bulge symptoms and no retreatment. At only 2 years, the failure rate was not significantly different between the two groups but still was at around 40%, with approximately 18 % of women experiencing bothersome symptoms and 17.5% developed prolapse below the hymen. Notably 16.5% of patients experienced a serious adverse event. The most recent Cochran review reporting on transvaginal mesh compared to native tissue repair (Maher, 2016) included only randomized controlled studies with a minimum of 20 women in each arm, and average follow up of 1 to 3 years. The authors found that the rates of repeat surgery for prolapse were lower in the mesh group, and found no difference between the groups in rates of de novo dyspareunia when comparing nonabsorbable mesh to native tissue repair. Similarly, when comparing absorbable mesh to native tissue repair, the authors found that recurrent prolapse on examination was less likely in the mesh group, and found no difference between urinary outcomes, dyspareunia, and quality of life. They did admit to the finding of multiple biases within the different studies along with incomplete data, heterogeneity between study groups, underreporting of allocation of randomization, blinding and selective reporting. They did not include many of the cohort studies and non-randomized studies that could have increased the total number of patients and longer term follow-ups. Their definition of prolapse recurrence was stage 2 or worse. This means that any recurrent prolapse at the level of the hymen or up to 1 cm above the hymen was considered a failure. This definition is different that the definition adopted by many physicians, investigators and reviewers over the last few years.

No matter the approach, all gynecologists are or should be aware of the surgical risks such as bleeding, infection, injury to nerves, organs and vessels, and post-operative risks including scarring, wound complications, painful intercourse (short and long term), pelvic pain (limited or chronic), urinary or bowel problems, long-term failure of the surgical site or other compartments, and the need to re-operate. All of those risks are addressed in the medical literature and taught in residency and fellowship programs.

Stress Urinary Incontinence:

Urinary incontinence increases with age and impacts approximately 30-60% of middle age and older women. Half of these women will have Stress Urinary Incontinence (SUI) as defined by a complaint of involuntary loss of urine on effort or exertion, or on sneezing or coughing as defined by the International Continence Society. Risk factors contributing to the development of SUI include childbirth, obesity, previous pelvic floor surgery and age. Urinary incontinence has a major impact on quality of life and this has led to the development of several surgical options. The traditional standard retropubic surgeries were performed via laparotomy (open abdominal incision) and were found to have a higher success rate than the traditional vaginal anterior colporrhaphies or vaginal needle suspensions. The Burch colpopexy and the pubovaginal sling,

designed to suspend the bladder neck, were associated with a longer operating time, higher rates of complications and post-operative voiding dysfunctions and finally a significant longer recovery time. It was not unusual for women to be discharged with a catheter for a few weeks and take a 6 to 8 week convalescence.

The traditional Burch has been performed by laparotomy for many decades, but in the early 1990's the introduction of laparoscopy and more recently, robotic technology have decreased some of the complications associated with an open procedure. The Burch colpopexy been demonstrated more effective than conservative management, medical treatment, vaginal anterior colporrhaphy, needle suspensions and the Marshal-Marchetti-Krantz procedure, which was first performed in the 1950's, with sutures directly through the periosteum of the pubic symphysis and in its day was considered a radically new approach. Although a laparoscopic approach offers a minimally invasive alternative, it is reported to be associated with an 11% ureteral injury rate compared to the open technique. A Cochrane review (Lapitan, 2012) reports a success rate of 68.9%-88% for the Burch colposuspension procedure, The SISTEr trial (Albo, 2007) reports a 3% incidental bladder perforation and a 3.9% rate of wound infection requiring surgical re-intervention. Long term though, 56% of women demonstrated significant incontinence and only 14% remained dry (Kjolheda, 2005). The open Burch colposuspension is associated with increased voiding dysfunctions compared to midurethral sling procedures (ACOG practice bulletin, 2015 – Ward, 2002), as well as an 8-fold increased risk of developing new or recurrent prolapse compared to sling procedures (Lapitan, Cochrane review, 2012). There was similar quality of life outcomes, except emotional and social functioning, vitality and mental health were significantly less improved in the colposuspension group (Ward, 2002). At follow up Demirici (2001) found occurrence of cystoceles, enteroceles and rectoceles as well as complications including groin or suprapubic pain 6% and dyspareunia 2.7%. Moreover, the performance of a concomitant Burch colpopexy for stress incontinence along with a concomitant posterior colporraphy for posterior vaginal prolapse or rectocele was associated with a 38% rate of dyspareunia (Webber, 2000). The open and laparoscopic colpopexies also presents unique risks associated with intra-abdominal surgery.

Pubovaginal slings involve placement of a fascial sling at the proximal urethra, through the retropubic space and attaching it to the anterior abdominal fascia. They have evolved since 1907 when a muscle structure was first described to serve as an additional bladder neck support. Nowadays many materials are used, synthetic (polypropylene) or biological (autographs: from patients own rectus fascia, fascia lata, or vaginal as well as allographs: cadaveric fascia, dermis or dura mater, and finally xenograft: derived from porcine or bovine tissue). Also involved are the different attachments that over the years have included various materials including bone anchors or permanent braided or non-braided sutures tied to either abdominal fascia or pubic bone. One of the largest trials, reported in the New England Journal, comparing the pubovaginal sling to Burch colposuspension (Albo, 2007) showed superior cure rates for the pubovaginal sling, but at the expense of much increased rates of urinary tract infections (48% vs 32%),

voiding dysfunctions/obstructed voiding (14% vs 2%) and urge incontinence requiring treatment (27% vs 20%). Certainly the rates of complications of the traditional pubovaginal sling are significant, but are deemed very acceptable in certain women who have failed previous SUI surgeries, have had urethral complications or in patients needing concomitant urethral reconstruction such as diverticulum or fistulas and incontinence surgery.

Synthetic midurethral slings

The Synthetic midurethral sling developed in the mid 1990's was a significant improvement over those traditional surgeries as they could be performed as an out-patient surgery, with reduced surgical time, using minimal incisions, acceptable morbidity and much quicker recovery. In 1995 Ulmsten and colleagues reported on a 2 year midurethral sling using a retropubic synthetic mesh named tension free tape, and in 1996 the FDA cleared the first mesh for SUI (TVT) by Ethicon. Since that time many modifications of this midurethral sling have been undertaken and in December 2003 Ethicon's TVT-O received 510-k clearance from The FDA based on the predicated TVT device.

The actual woven type 1 Prolene mesh would be positioned at the level of the midurethra and left in place without the need for difficult suturing or anchors. Since then, there have been over 2000 articles published in the medical literature. The synthetic polypropylene midurethral sling has been the most studied anti-incontinence procedures, surpassing all other previous traditional surgeries (Nager, 2014). A 17-year prospective study described the TVT operation as durable with 87% subjectively cured or significantly improved and a high satisfaction rate (Nilsson, 2013).

Initially developed as a retropubic approach, the introduction of the sling mesh can be accomplished bottom-up (TVT), but it can also be performed top-down (SPARC). Comparing the two, (Ogah, 2009) found that the bottom up approach will result in significantly less bladder perforations (4.7% vs 8.5%), fewer vaginal mesh exposures or erosions (0.7% vs 3.5%) and greater subjective (85% vs 77%) and objective cure rates (92% vs 87%). These conclusions were echoed by the 2015 Cochrane review. Many meta-analyses and systematic reviews have been conducted comparing midurethral slings with traditional surgeries (Reman, 2001- Novara, 2010- Ogah,2009/2011 – Ford, 2015 - Schimpf, 2014), concluding that midurethral slings resulted in less lower urinary tract symptoms and less reoperations compared to the pubovaginal sling.

Retention lasting more than one month was reported to be on average 8% (1-15%) with conventional surgery compared to 3% (2-4%) with early experience with midurethral slings. De novo urgency incontinence has been reported to be approximately 10% (3-20%) with

conventional surgeries compared to 6% (3-10%) for mid urethral sling. These rates were almost doubled when concurrent POP surgeries were performed. The rates of symptomatic post-operative urinary urgency are three times less with midurethral sling compared to pubovaginal slings.

In their Guideline for the Surgical Management of Female Stress Urinary Incontinence 2009 Update, the AUA also reported on complications as they relate to pain and sexual dysfunction. Grouping all retropubic suspensions, pain varied from 3-12% and sexual dysfunction between 2-6%. Grouping pubovaginal slings, pain was varied from 1-35% and sexual dysfunction between 3-16%. Grouping synthetic midurethral slings, pain varied from 0-3% and sexual dysfunction between 0-4% with most women reporting an overall significant improvement compared to baseline (Abdel-Fattah, 2010). The literature has consistently shown that leg or groin pain associated with transobturator midurethral sling is usually transient, with most resolving within a few weeks (Ford, Cochrane review, 2015), using conservative measures. Reports of chronic groin or leg pain with TVT-O are rare, especially in the long-term TVT-O studies.

Midurethral slings offer a greater improvement in quality of life domains compared to Burch surgeries (Ogah, 2009).

In 2001, the transobturator approach was developed in an attempt to reduce the intra-operative risks of lacerations to the bowel, bladder and well as vascular injuries. The TVT-O was found to have a high cure rate at 12 months (91%) with less than 10% voiding dysfunction. No urethral or bladder perforation occurred during the surgeries and no post-op mesh erosions were recorded. This was also confirmed in a longer follow up (Waltregny, 2006 & 2009). Here as well, there are two approaches: the inside out (as in the TVT-O) and the outside in. Both have shown equal rates of objective and subjective cure rates, but the inside out technique is associated with less voiding difficulty and less bladder perforations (Novara, 2010- Latthe, 2010).

Comparing the retropubic vs the transobutrator approach has been the subject of many debates but looking at meta-analyses (Ogah, Cochrane data base 2009 - Ford, Cochrane 2015) and RCT studies. Success rates are similar with slight advantage of the retropubic approach regarding the objective cure rates and possibly advantageous in cases of intrinsic sphincter deficiency. The advantages of the transobturator approach include decreased bladder perforations (0.3% vs 5.5%) but this rate is significantly higher using the retropubic approach in patients with previous incontinence surgery. There is decreased post-operative voiding dysfunctions (0.8-4% vs 7-12.2%) and less required surgical re-intervention. The retropubic midurethral sling has been associated with supra pubic pain in 1.7%, but the transobturator sling resulted in groin pain in 6-12% of patients, which was temporary with no long term sequelae in most patients (Thomaselli, 2014). Overall the complication rates associated with retropubic midurethral slings are higher

compared to the transobturator approach (Richter, 2010). A retrospective case-control study involving 2123 women undergoing a midurethral sling (retropubic or transobturator) over a span of 10 years, identified 27 patients (1.3%) with vaginal mesh erosion needing surgical correction. The retropubic approach was associated with more vaginal mesh exposures, along with premenopausal status and previous bariatric surgery (Linder, 2016). In another recent case control study (Unger, 2016), reviewing 3307 women receiving a midurethral sling over a 10 year period, found an overall 2.7% revision rate for various indications, with a median time 7.8 months (2.3 to 17.9 months).

Considering the data that shows that the majority of sling mesh exposures or erosions occur within the first few years after the implant surgery, there is no reason to foresee any future mesh erosion as we are more than 5 years away from Mrs. Gomez's surgery in 2009.

The 2009 Cochrane review (Ogah, 2009) did conclude that midurethral slings were as effective as the more invasive, traditional continence surgeries and that major complications such as nerve, bowel or major vascular injuries, pelvic hematoma, necrotizing fasciitis, abscess and death are uncommon. These conclusions are also maintained in the 2015 Cochrane review of midurethral slings (Ford, Rogerson, Cody, Ogah, 2015).

It is now undeniable that mid urethral slings have a very acceptable risk/benefit profile. According to the American Urogynecologic Society (AUGS) and the Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction (SUFU), full length synthetic midurethral slings are the new gold standards for treating Stress Urinary Incontinence. Other professional organizations such as ACOG, IUGA, AUA, EAU, and NICE have also endorsed the full-length polypropylene midurethral slings as the standard of care for treating stress urinary incontinence in a variety of publications, guidelines, and position statements.

Hysterectomy and Pelvic Pain:

Chronic pelvic pain including dyspareunia are problems that can affect 8 to 22% of women at some point in their life (Latthe, 2006), even in never previously operated women. This makes it one for the most frequent complaints seen by gynecologists (Danielsson, 2003) and often one of the most complex problem to treat as anatomically and embryologically so many organs, muscles and nerves lie in proximity.

In the United States, one of the most common indication for hysterectomy in benign cases, is pelvic organ prolapse. Even for the most experienced surgeons, pain with intercourse is one of the sequela of hysterectomy with or without concomitant surgeries. Aging changes will contribute to painful intercourse as in the peri and post-menopausal woman, the vaginal tissue loses its elasticity and natural lubrication due to hormonal and vascular changes.

Post-operative dyspareunia can occur due to recurrence of conditions for which the hysterectomy was indicated, post-operative changes as well as pre-existing pain syndromes. De novo dyspareunia may occur in as many as 2.3% of women undergoing hysterectomy (Rhodes, 1999). Surgical factors include vaginal cuff closure as it relates to the approach to the hysterectomy, vaginal versus abdominal/laparoscopic. Abdelmonem (2010) reported on a significant difference in the post-operative dyspareunia rate of 20% associated with vaginal hysterectomy for prolapse compared to 5% following total abdominal hysterectomy for other benign reasons. In the same study, vaginal length has been shown to be reduced be approximately 2 cm after a vaginal hysterectomy compared to the abdominal route. Pelvic organ prolapse in itself can affect sexual function and many of these women will be offered a vaginal approach to their hysterectomy, which has been encouraged by the American College of Obstetrics and Gynecology, along with other concomitant vaginal procedures. Post-operative dyspareunia after pelvic organ prolapse surgery with native tissue is reported to occur in approximately 14.5 to 36% of women. The rate of dyspareunia is approximately doubled in vaginal hysterectomy compared to the abdominal route. It is also noted that a vaginal hysterectomy may negatively affect sexual function although may not be linked to length or caliber (Weber, 2000). The residual ovary can be implicated in causing deep dyspareunia when an elongated infundibulopelvic ligament suspends the ovary well below the pelvic brim, as encountered in uterine prolapse, deep in the pelvis and near the vaginal cuff. Post-operative adhesion formation caused by tissue manipulation during normal surgical procedures can result in pain. Nerve fibers are present within scar tissue even in the normal course of healing. Pain at the apical scar may be secondary to nociceptive sensation or reflect prior chronic pelvic pain. Dense adhesion causing organ immobility may also be associated with pain.

Increasingly accepted as an etiology of pelvic pain, dyspareunia, voiding and defecation issues is dysfunction of the levator ani muscle group, especially the puborectalis and pubococcygeus muscles. Hypertonicity can cause severe proximal (introital), mid and/or deep dyspareunia, as well as discomfort or pain that can last hours or days after intercourse. Other symptoms include pelvic pressure and the sensation that pelvic organs are falling out and these symptoms are frequently out of proportion to the degree or severity of the prolapse. Voiding dysfunctions are common including urgency, frequency and feeling of incomplete bladder emptying and supra-pubic pain. Defecation problems are also reported as there is a paradoxical contraction of the levator ani muscle, while is should be relaxed. This often presents as symptom similar to constipation but does not respond to usual bowel remedies or prolapse repair. Fibers from S2-4 nerves, inferior hypogastric and splanchnic nerves give innervation to the pelvic musculature,

pelvic organs and vagina. This complex anatomy may also explain the often associated low back and low anterior abdominal pain. Levator ani myalgia and spasms may contribute to, or result from, urethral irritation and/or urinary tract infections. A long history of dysuria or dyspareunia may exacerbate pelvic floor spasms further increasing the patient's symptomatology. Treatment includes therapy by experienced physical therapists, specializing in pelvic floor and sacro-iliac disorders may include bio-feedback. In addition, medical therapies may include muscle relaxants, neuro-affecting drugs, vaginal Diazepam and intra-muscular injections with local anesthesia, steroids and even Botox.

Bladder Pain Syndrome

Painful bladder syndrome, including interstitial cystitis are chronic conditions associated with urethral, bladder and pelvic pain, symptoms of urgency and frequency as well as dyspareunia in 50-90% of women with this condition. Women are five times more affected than men and the prevalence is reported to be approximately 4.3%. Although the exact etiology is unknown, theories include inflammation/injury to the GAG layer composing the inner lining of the bladder, which contributes to decrease pain threshold, bladder compliance and increased irritative voiding symptoms. The immune system response may be implicated as manifested by mast cells found along with nerve fibers in the urothelium along with epithelial dysfunction at the cellular level. Finally one of the most frequent associations is a history of frequent urinary tract infections, although an initial UTI may be implicated in the etiology, no specific bacteria has been implicated. On pelvic examination, 78-85% of patients have associated levator myalgia (Bassaly 2011, Peters, 2007). Symptom exacerbation, or flare-ups are common and can last a few days to weeks. Over time, fear of pain will further contribute to pelvic floor spasms, avoidance of penetration and potentially decreased libido. Treatment involves long term management involving a multidisciplinary approach including dietary modifications, oral medications (antispasmodics, Phenazopyridine-AZO, neuromodulators, antidepressants, antihistamines, Pentosan-Elmiron), pelvic floor physical therapy & intravaginal diazepam, bladder instillations, cystoscopic hydrodistension/treatment of Hunner's lesion, neuromodulation, and other more invasive surgeries.

Chronic cystitis, trigonitis or urethritis are also contributors to pelvic pain. The urogenital organs are intimately linked. The bladder, trigone and urethra all rest on the anterior vaginal mucosa and are compressed and stretched during coital activity. This will be compounded by levator ani dysfunction and/or perineoplasty which further reduces the introital diameter.

Introduction of Mesh for Pelvic Organ Prolapse:

General surgeons began attempting to repair hernias with mesh in the 1950s, which started the evolution of various meshes and techniques using mesh repairs to provide more consistent and

durable repairs in various parts of the body. Gynecologic surgeons adapted mesh to the pelvic space to treat SUI and POP abdominally as early as the the1960s in an attempt to reduce the failure or recurrence rates seen with native tissue repairs. To meet this need for a more durable repair, Ethicon and other companies then began to supply mesh for use in the pelvic space.

The introduction of mesh in the treatment of pelvic organ prolapse was intended to attain an important goal for surgeons - improve the longevity of the repair. In the 1970s more gynecologists were performing sacrocolpopexies using mesh in order to suspend the apex of the vagina. These surgeries were performed via laparotomy and although they had a high success rate and were considered the gold standard for apical prolapse repair, this procedure was associated with increased morbidity due to incision and abdominal wall infection (including cases of necrosing fasciitis), infection of the mesh leading to infection of the sacrum, disk and lower vertebrae (osteomyelitis) with catastrophic consequences. In addition, reports of painful intercourse (16%, Kenton, 2015) after this procedure have surfaced. A comprehensive review of abdominal sacrocolpopexy (Nygaard, 2004) reported intra-operative complications involving perforations of the bladder (3.1%), bowel (1.6%) and ureteral injury (1%). The incidence of hemorrhage and transfusions were 4.4%. Also, post-operative complications including wound herniation requiring repair (5%), transient ileus (3.6%), bowel obstructions requiring surgery (1.2%), and mesh erosions into the vagina and adjacent organs. There are reports of de novo unprovoked vaginal pain in the absence of mesh erosion (Buechel, 2016). Removal of the abdominally placed mesh, even in this gold standard procedure, involves high-risk surgery. Urinary incontinence is a well-known occurrence after sacrocolpopexy, even in previously continent women, over 40% will suffer from de novo urinary incontinence. It is now recommended proceed with a prophylactic urethropexy or sling procedure. Despite this additional surgery, over 20% of women will still have problems with urinary incontinence (Brubaker-CARE trial, 2006).

The types of mesh used for sacrocolpopexy have also evolved. The use of biologicals or cadaveric fascia has proven inferior to synthetic mesh. Mersilene, Marlex, and even Goretex mesh, have been used in the past but they have a much increased risk of infection and erosion compared to Ethicon's Prolene and more recently developed Gynemesh PS mesh. Rates of mesh erosion are reportedly low between 3 to 5%, but these have been noted with only relatively short-term follow up. Nygaard has published a review showing mesh erosion rates from abdominal sacrocolpopexies to be as high as 12% and Nygaard's recent publication of the extended CARE study reported mesh erosion rate of 10.5%.

In the 1990s gynecologists were implanting mesh via the transvaginal route in order to reinforce the traditional prolapse repairs. These meshes had to be cut from larger pieces into segments tailored to the desired shape for each patient. Biological and synthetic grafts were introduced to many pelvic floor surgeons for augmentation of a pelvic floor defect such as cystocele or

rectocele traditional repair. Unfortunately their use in securing level 1 (apical) or level 2 (paravaginal) defects still required extensive dissection and visualization to affix or suture the mesh especially in the anterior compartment to the Arcus Tendineus Fascia Pelvis (ATFP). A need for a new approach to deliver this improved support was in great demand.

Prolift was one of the first to answer that call for many surgeons. Although the location of the tissue plane to dissect was different, as it needed to be deeper (full thickness) than the usual fibromuscular layer (fascia) that was used traditionally for a colporrhaphy, the training that was offered clearly demonstrated the relative ease of this entry into the correct plane and the importance of the full thickness dissection. The importance of placing the mesh behind the fibromuscular layer, which is essentially where the mesh is placed during sacrocolpopexy, was well recognized as the experiences with previous non precut mesh demonstrated high rates of erosion when positioned too superficially.

The Posterior Prolift re-establishes level 1, 2 and 3 support through a modified sacrospinous fixation technique. Compared to traditional unilateral right sided sacrospinous fixation, Prolift has better midline anatomical prolapse correction and rates of dyspareunia are equivalent (Halaska, Svabic, daSilveria).

Depending on the type of mesh used to treat pelvic organ prolapse, non-absorbable synthetic, biologic or absorbable synthetic, the risks of associated scarring, contraction, risks to adjacent organs, mesh erosions or exposures, and pain or painful intercourse have been well known to gynecologists, urogynecologists, and urologists who operate in the pelvic floor. These risks are also well known as they have been described as extensively in the peer-reviewed medical literature. The bio-chemical properties of these implants are important but also each patient's own immune and histological reaction can also influence healing, scarring, short and long-term outcome similar to other prolapse surgeries. The Gynemesh PS mesh used in Prolift and the Prolift +M, combining approximately equal parts of polypropylene and absorbable Monocryl, are not defective just because a small percentage of patients experience mesh exposures or other known complications.

In 2005, mesh kits containing a precut mesh as well as trocar delivery system or introduced as a line extension to Gynemesh PS. Before the introduction of Prolift and Prolift+M, there have been very few Randomized Controlled Trials on prolapse repair surgeries. Most surgical techniques have been used for decades without any validation studies, and despite this, are considered standards. Since then, over 200 studies have been performed.

The Prolift IFU associated with the original launch in 2005 (which came with the Technique Guide), includes warnings and precautions as well as adverse reactions typically associated with surgical implant about materials including: infection, inflammation, adhesion formation, fistula

formation, erosion, extrusion and scarring that results in implant contraction. Further, the IFU mentioned punctures or lacerations of vessels, nerves, bladder, urethra or bowel may occur during Gynecare Prolift guide passage and may require surgical repair. Pelvic floor surgeons would know of the risks associated with any surgery including pain and dyspareunia by way of their basic medical education and training. They would also know that pain and dyspareunia are potential risks from infection, inflammation, adhesion formation, fistula formation, erosion, extrusion and scarring that results in implant contraction and that all of these potential complications may need reparative surgery.

Also published & made available to physicians are the 2005 and 2007 Prolift pelvic floor repair system slide sand the 2007 Prolift surgeon's resource monograph, which clearly demonstrate the proper placement of the guide and cannulas. They also discuss the increased risks of adding a concomitant hysterectomy as well as mesh complications including mesh exposure and erosion as well as dyspareunia and vaginal pain and many others, in addition to the treatment of complications.

The Prolift+M was eventually developed by Ethicon in order to continue innovation, continue to maintain efficacy and durability of repair as seen with Prolift, while continuing to attempt to reduce the risks of complications.

In May of 2008, the Prolift+M was cleared by the FDA and the IFU also refers to the surgical technique guide for the Gynecare Prolift. Substantial equivalence to synthetic mesh with the same indications had previously been demonstrated with the Prolift and information on the clinical performance had been published in the literature. Retrospective studies comparing Prolift to Prolift+M demonstrated similar results between Prolift and Prolift+M regarding safety and efficacy. The more recent studies also consider quality of life and patient satisfaction as well as impact on sexual function on well validated questionnaires. Studies have shown improvement in dyspareunia and patient satisfaction rates with Prolift+M.

On October 20, 2008, the FDA issued a warning to surgeons, practitioners, and consumers regarding the use of mesh from a wide range of manufacturers for the repair of pelvic organ prolapse and stress incontinence. Pelvic floor surgeons were the target audience of this notification and would have been expected to read and consider this notice. Further, this notice was also discussed in a variety of other publications in the medical literature as well as Ethicon's Professional Education.

The FDA's Public Health Notification of 2008, warned surgeons of risks such as: erosion of the mesh "through the vaginal epithelium, infection, pain, urinary problems, and recurrence of

prolapse and or incontinence." Additionally, the FDA notice warned that "there were also reports of bowel, bladder, and blood vessel perforation during insertion. In some cases vaginal scarring and mesh erosion lead to significant decrease in patient quality of life due to discomfort and pain, including dyspareunia". Further, FDA recommended that physicians should:

- Obtain specialized training for each mesh placement technique and be aware of its risks,
- Be vigilant for potential adverse events from the mash especially erosion and infection,
- Watch for complications associated with the tools used in transvaginal placement, especially bowel bladder and blood vessel perforations,
- Inform patients that the implantation of surgical mesh is permanent and that some complications associated with the implanted mash may require additional surgery that may or may not correct the complication.
- Inform patients about the potential for serious complication and their effect on the quality of life including pain during sexual intercourse, scarring, and narrowing of the vaginal wall.
- Provide patients with a written copy of the patient labeling from the surgical mesh manufacture, if available.

A reasonably prudent pelvic floor surgeon performing incontinence and prolapse surgeries would have already been aware of the potential for these complications to occur with mesh, but would have been put on notice of the frequency of those complications outside of what was already reported in the peer-reviewed medical literature.

There have been several randomized trials comparing polypropylene mesh with traditional native tissue repair. (Hiltunen, Sivalslioglu, Nieminen x2, Nguyen, Carey, Withagen, Altman) These studies show at 12 to 36 month follow up, a statistically significant improvement in cure rates associated with mesh (from 81-93%) compared to native tissue (48-72%), except Sokol which showed an improvement but not statistically significant, and Carey which also favored Gynemesh PS. In the most recent Cochrane review comparing transvaginal mesh to native tissue repair, the authors commented on the FDA's concerns related to dyspareunia and vaginal pain that account for one third of the complications reports. Contrary to this, in their review of 25 RCT which included a total of 2500 women, "surgery for vaginal pain or dyspareunia was barely mentioned" (Maher et al, 2016).

Table 1 Randomised controlled trials comparing polypropylene mesh with traditional native vaginal tissue repairs

Reference	Total number patients	Follow up (months)	Compartment studied	Anatomic cure mesh (%)	Anatomic cure traditional (%)	*p*
Hiltunen et al. [9]	104	12	Anterior	93	62	<0.04
Sivaslioglu et al. [10]	90	12	Anterior	91	72	<0.05
Nieminen et al. [11]	105	24	Anterior	89	59	<0.05
Nguyen and Burchette [12]	75	12	Anterior	87	55	<0.05
Carey et al. [13]	139	12	Anterior Posterior	81	65.6	0.07
Nieminen et al. [14]	202	36	Anterior	87	59	<0.0001
Withagen et al. [15]	194	12	All	90	55	<0.001
Altman et al. [16]	389	12	Anterior	82	48	0.008
Sokol et al. [17]	65	12	All	38	30	0.45

In addition to the studies in Table 1, several other studies have evaluated Gynemesh PS or Prolift (which is made from Gynemesh PS) versus traditional repairs, including, but not limited to: Halaska (2012) showing 83.1% cure for Prolift and 60.6% cure for traditional repair, Da Silviera (2014) showing 88% cure for Prolift and 81% cure for traditional repair, and Svabik (2014) showing 97.2% cure for Prolift and 38.2% cure for traditional repair.

The literature commonly reports that 8 or 9 out of 10 women reported that Prolift improved their quality of life. It is important to also consider the pre-existing dyspareunia and pain rates compared to the post-operative complaints of de novo dyspareunia and pelvic pain. For example, Yesil (2014) reported an improvement of dyspareunia in 17.8% of patients at 12 month follow-up with a de novo dyspareunia rate of 10.7%. Some of the studies published through 2009 that reported dyspareunia rates include, but are not limited to the following: Fatton/Jacquetin (2007) reporting 2 patients with dyspareunia at 12 month follow-up; Paplomata (2007) reporting 2 patients with dyspareunia at 21 month follow-up; Van Raalte/Lucente (2007) reporting 22 patients (6.3%) with vaginal pain causing dyspareunia at 6 month follow-up; Dati (2008) reporting 2 cases of de novo dyspareunia but 4 of 6 cases of improvement in pre-existing dyspareunia at 3-6 month follow-up; Halaska (2008) reporting 1 patient with dyspareunia at 3-6 month follow-up; Hinoul (2008) reporting 3 patients with dyspareunia at 48 month follow-up; Lowman (2008) reporting 17% dyspareunia at 7 month follow-up; McEvoy (2008) reporting 4% dyspareunia at 18 month follow-up; Mobley (2008) reporting no patients with de novo dyspareunia at 24 month follow-up; Rechberger (2008) reporting 4 patients (19%) dyspareunia at 12 month follow-up; Van Raalte (2008) reporting No patient with dyspareunia at 12 month follow-up; Holly (2009) reporting 2 patients with dyspareunia at 24 month follow-up; Milani (2009) reporting 2 out of 11 patients (18%) with de novo dyspareunia but 2 out of 7 patients who had dyspareunia before the surgery but not after; Sanses (2009) reporting 10 patients (4.9%) with dyspareunia at 3-6 month follow-up; Wetta (2009) reporting 2 patients (4%) with dyspareunia at 12 month follow-up. This is just one example of why it would be almost impossible for a manufacturer to list the exact frequency and severity of dyspareunia in the IFU. The same can be

said for mesh exposure, recurrence, urinary problems, and various other complications that are well documented in the medical literature.

Studies have reported that women were satisfied with the outcome of their Prolift procedure even when they experienced a complication, such as mesh exposure or dyspareunia (Lowman, 2008). For example, Feiner (2010) reported 4 patients with de novo dyspareunia and 21 women reported an increase in sexual intercourse after Prolift; however, 94% of women saying that they would have chosen to undergo Prolift surgery again and 92% would recommend it to a friend.

Some of the larger patient population Prolift studies reporting on mesh exposures include: Fatton (2007) reporting 4.7% mesh exposure out of 106 patients at 3 month follow-up; Meschia (2007) reporting 4.8% mesh exposure out of 228 patients at 6 months; Abdel-Fattah (2008) reporting 11% mesh exposure out of 219 patients at 3 months; Cosson (2008) reporting mesh exposures in 3 patients (1.8%) when uterus had been kept, 1 patient (2%) after previous hysterectomy, and 1 patient (4.3%) among patients with concomitant hysterectomy; Dedet (2008) reporting 2.6% mesh exposure out of 114 patients at 12 month follow-up; Lowman (2008) reporting 16.3% mesh exposure out of 129 patients at 7 month follow-up; Aungst (2009) reporting 3.8% mesh exposure out of 335 patients; Elmer/Altman (2009) reporting 26 (11%) mesh exposures out of 232 patients at 12 month follow-up, of which surgical intervention occurred in 7 cases and the remaining cases were all managed conservatively using topical cream; Ehsani (2009) reporting 2.2% mesh exposure out of 451 patients at 11 month median follow-up, of which 4 were treated surgically and the other 6 were managed conservatively with estrogen cream.

Studies on Prolift+M include a 1 year follow up on 127 patients with anatomical success at the hymen of 89.5% and that 96% felt that their prolapse was “better”, of those 86.2% reported feeling “much better” (Milani, Cosson et al, 2011). Of the 61 patients who were sexually active before surgery, 18 reported dyspareunia pre-op. Post-operatively 13 of these reported resolution of their pre-existing dyspareunia, 4 experienced persisting dyspareunia and one stopped sexual activity for unrelated reasons. Only 1 patient (2%) reported de novo dyspareunia at 1 year. Nine women who were not previously sexually active did resume intercourse without de-novo pain. Mesh exposure rates was 10.3%. Of these, most 11/13 were in patients with Total Prolift+M and 2/13 were Anterior Prolift+M. Treatment was conservative with vaginal estrogen cream in 6 patients. At 3 years, 96.9% of women were available for follow up and these same authors reported success in the treated compartment to be at 88%. A total of 19 patients (14.8%) had mesh exposure during the entire study period. This compares with previous literature on mesh exposures. Of the women with baseline dyspareunia, 6 (33%) resolved and de novo dyspareunia occurred in 3 (9%) women. They reported that “no major safety concerns were identified and that the low incidence of pain and dyspareunia are encouraging”. Other comparable results have demonstrated the efficacy and safety of Prolift+M (Khandwala, 2013 - Lensen, 2013 - Bhatia, 2012 - Milani, 2012 - Khandwala, 2011 - Pizarro, 2011). In 2013 Khandwala and his group did

not find clinical mesh retraction or a statistically significant decrease in total vaginal length after a 1 year follow up. Their reported rate of mesh exposure was only 2.2% at 1 year. Several retrospective or observational studies have found lower rates of dyspareunia, mesh exposure as well as decreased re-operations when comparing Prolift+M to Prolift (Bhatia, 2012 - Lensen, 2013 - Milani, 2012). We also realize that surgical experience and surgical volume are factors influencing risk and success of any surgical technique. Authors suggest that the decreased complications in the studies involving Prolift+M may be partially attributable to the experience gained by previous years of performing surgeries using Prolift. Studies have shown an inverse correlation between complications and surgeon volume. Patients of high-volume surgeons experience decreased rate of complications compared to low-volume surgeons (Withagen, 2011 - Welk, 2015).

Mesh exposures typically appear within the first few months to 1 or 2 years (Quiboeuf, 2015- Firoozi, 2012- Kasyan, 2012) post-operatively and typically occur at the incision line. Furthermore, Benbouzid (2012) reported 85% cure and 5.3% mesh exposure rate at 4.5 year follow-up; Krcmar (2011) reported 83% cure and 3.78% mesh exposure with mean time to exposure being 12 months at 5-6 year follow-up; Gad (2012) reported 91.6%-100% cure and no mesh exposures at 5 year follow-up; Kozal (2012) which reported 4 mesh exposures out of 116 patients at 5 year follow-up; Popov (2012) showed 5.8% mesh exposures out of 1,311 women at 4 year follow-up; Wang (2013) reported 93% cure and 5 mesh exposures out of 80 patients at 3 year follow-up.

In addition to Ethicon's IFU/Surgical Technique Guide/Surgeon's Monograph/ and Professional Education, the medical literature also describes increased risk of mesh exposure and recurrent prolapse with concomitant hysterectomy. For example, in Gani (2009), the authors concluded that, "concurrent vaginal hysterectomy is associated with increased risk of vaginal mesh erosion," The authors reported a mesh erosion rate of 13/127 (10.2%) with significant correlation between mesh erosion and concurrent vaginal hysterectomy ($p=0.008$) and a dyspareunia rate of 2.4%. These figures are consistent with more inclusive literature reviews. Feiner/Maher (2009) reported Prolift mesh erosion rate of 7% and dyspareunia rate of 2% from 8 studies and 1,295 women. The SGS review (Abed 2011) also reported similar results, finding a 10.3% mesh erosion rate.

Considering the data that shows that the majority of mesh exposures or erosions occur within the first few years after the implant surgery, there is no reason to foresee any future mesh erosion as we are more than 5 years away from Mrs. Gomez's surgery.

Early studies evaluating Prolift have shown 80-90% objective and subjective cure. The 12 month results from the French TVM study (which used the pre-shaped mesh but not the delivery

system: guide and cannula) had a success rate of approximately 82%. The failure rate was 18.4% (absolute rate, with a 90% CI of 11.9-26.6) at 12 months, which is a significant improvement over native tissue repairs. Of the 16 failures, only one patient had prolapse ICS stage III, while 15 patients had prolapse of ICS stage II, with 10 of those 15 patients having stage II where the leading edge of the prolapse was at or inside the introitus. If one recalculates these failure rates according to the newer definition, below the hymen, then the actual success rate would be over 98%.

The TVM inventors continuously published their results on Prolift, and later on Prolift+M. In 2012, de Landshere and Cosson published a retrospective study of 524 patients with a median follow up of 38 months (15-63). Their reoperation rates for recurrence of prolapse was 3%, mesh erosion requiring surgery was 3.6% with mean time of exposure at 13 months. Their rate of mesh infection was 0.2%, and their rate of severe symptomatic mesh retraction was 0.4%. A similar study by Cosson using Prolift+M showed similar results.

In 2013, professor Jacquetin published a 5 year prospective study evaluating the clinical effectiveness and complication rates of total transvaginal mesh. Their definition of success was the leading edge above the hymen, no bulge symptoms and no reintervention for prolapse. At 1, 3 and 5 years respectively, this was 90%, 88% and 84% for all 3 criteria. While the rate of mesh exposure was 16%, only half required surgical intervention, with most of them within the first year. Their rates of de-novo dyspareunia was 10% but none at the 5 year mark. As for overall factors influencing sexuality, they are difficult to quantify over time as women and their partners continue to age and confounding physical, health and emotional factors are introduced.

I am also relying on the published Cochrane reviews, meta-analyses, and systematic reviews to support my opinions about various success and complication rates.

In a recent randomized controlled trial evaluating Prolift versus conventional native tissue vaginal repairs in patients with recurrent pelvic organ prolapse with long-term follow-up at 7 years, the overall anatomic success was higher in the mesh group, which was particularly significant for the anterior compartment (74% vs. 31% p 0.001). (Damoiseaux 2015). The de novo dyspareunia rate was 3/29 (10%) for the Prolift group and 3/26 (12%) for the native tissue group ($p = 0.328$).

In a Prolift study with 5 year follow-up, the anatomic cure rate was 80.26%. (Ubertazzi 2015). There were 15 (19.74%) cases of prolapse recurrence. After 5 years of follow-up, only 4 patients (5.5%) required new surgery for POP, one of which was de novo. Mesh exposure was documented in 12 patients (15.8%), of which 6 patients required surgical resection and the

remaining 6 patients were treated in the office and remain asymptomatic. De novo dyspareunia occurred in 2 patients (5%). Regarding subjective cure, 71% of patients considered themselves cured, 21% improved, and 93.5% would recommend the surgery.

Most frequent complications of Prolift & Prolift+M are known, acceptable and manageable. Even complications requiring surgical management are often successful without having to dissect the entire arms of the mesh (Firoozi, 2012). Fortunately, serious life threatening complications are rare. It is important to remember is that dyspareunia and pelvic pain are common conditions in the general population. A WHO systematic review (Lathe, 2006) estimates that the world wide prevalence of chronic pelvic pain is 2-24% and 1 in 5 women between the ages of 18-50 report pelvic pain longer than 1 year's duration (Howard, ACOG bulletin 2004) Some studies suggesting 40-50% of women have some form of dyspareunia or chronic pelvic pain at some point in their lives, regardless of whether they have ever sought surgical treatment for pelvic organ prolapse or stress urinary incontinence using mesh. These complications have been documented in the literature well before Prolift or Prolift+M became available. In a Prolift 8-year review study of 82 patients from a single center, most mesh complications were resolved in a single operation (Anderson, 2015). The authors found that subsequent surgical repair of incontinence or prolapse was needed in a minority of patients.

In a 2 year follow-up study comparing mesh complications in the United States after transvaginal mesh repairs versus abdominal or laparoscopic sacrocolpopexy repairs, the authors concluded that "pelvic pain and dyspareunia are common complaints after prolapse surgery by any of the three approaches studied." (Dandolu 2015). The review included **29,201** patients with transvaginal mesh, **8,112** patients with laparoscopic sacrocolpopexy, and **5,094** patients with abdominal sacrocolpopexy. The rate of dyspareunia was higher with sacrocolpopexies than transvaginal mesh cases. More recently a retrospective cohort study of 245 women compared reoperations after robotic assisted sacrocolpopexy and transvaginal mesh for apical prolapse. They found no difference in the rate of reoperation for mesh exposure (Martin, 2015).

The Cochrane review of 2016 comparing transvaginal mesh to native tissue repair, reports that over the course of 1 to 3 years, the recurrent prolapse rate was 38% in the native tissue repair compared to permanent transvaginal mesh, estimated range to be 11-20%. The rate of overall composite surgery rate, defined as need to perform an anti-incontinence surgery and/or prolapse surgery and/or surgery for mesh erosion, at 1-3 years was 5% in the native tissue compared to an estimated range of 7-18% in the permanent transvaginal mesh, mostly due to mesh exposures. There was no mention of granuloma or suture exposures related to native tissue repairs as few studies reported on apical suspension. The rate of de novo stress urinary incontinence was reported at 10% with native tissue compared to the estimate of 10-17% with transvaginal permanent mesh repair, but there was no difference in the rate of post-operative surgery for incontinence in either group. We must remember that in the conventional/traditional/gold

standard abdominal approach to colposuspension, the rate of post-operative stress urinary incontinence is 40-60%. Reports on quality of life, sexual function, PISQ questionnaires and voiding disorders found no statistical significant difference in either group.

The Gynecare TVT-O IFU applicable at the time of Mrs. Gomez's surgery notes that it is not a comprehensive reference to surgical technique for correcting SUI. The instructions are intended for general use of the device and variations in use may occur in specific procedures due to individual technique and patient anatomy. Warnings and precautions are extensive and include "as with other incontinence procedures, de novo detrusor instability may occur following a sub-urethral sling procedure utilizing the Gynecare TVT Obturator system. To minimize this risk, make sure to place the tape as described above". Adverse reactions are also well noted.

- Punctures or lacerations of vessels, nerves, bladder, urethra or bowel may occur during needle passage and may require surgical repair.
- Transitory local irritation at the wound site and a transitory foreign body response may occur. This response could result in extrusion, erosion, fistula formation or inflammation.
- As with all foreign bodies, PROLENE mesh may potentiate an existing infection. The plastic sheaths initially covering the PROLENE mesh are designed to minimize the risk of contamination.
- Over correction, i.e. too much tension applied to the tape, may cause temporary or permanent lower urinary tract obstruction.

Patient brochures are intended to help provide an overview of the medical condition and help to initiate the conversation between the surgeon and the patient about treatment options. The Prolift Patient Brochure that was available to surgeons in late 2008, following the FDA's October 20, 2008 Public Health Notification, discussed risks of the Prolift in the "What are the risks?" section of the Patient Brochure (Eth.Mesh.03906037-52), which states:

> What are the risks?
>
> "All surgical procedures present some risks. Complications associated with the procedure include injury to blood vessels of the pelvis, difficulty urinating, pain, scarring, pain with intercourse, bladder and bowel injury. There is also a risk of the mesh material becoming exposed into the vaginal canal. Mesh exposure can be associated with pain during intercourse for the patient and her partner. Exposure may require treatment, such as vaginal medication or removal of the exposed mesh."

> "Synthetic mesh is a permanent medical device implant. Therefore, you should carefully discuss the decision to have surgery with your doctor and understand the benefits and risks of mesh implant surgery before deciding how to treat your condition."

The TVT-O Patient Brochure applicable at the time of Mrs. Gomez's surgery discusses various treatments applicable to stress urinary incontinence. Brochures are often used as adjuncts to discussion between the physician and her patient and often help as a reminder of the discussion that did take place. It describes how a minimally invasive surgical procedure can help as well as a graphic image of the TVT mesh. It details complications including "injury to blood vessels of the pelvis, difficulty urinating, pain, scarring, pain with intercourse, bladder and bowel injury. There is also a risk of the mesh material becoming exposed. Exposure may require treatment. For a complete description of risks, see the attached product information. Synthetic mesh is a permanent medical device implant. Therefore you should carefully discuss the decision to have surgery with your doctor and understand the benefits and risks of mesh implant surgery before deciding how to treat your condition". The warnings, precautions and adverse reactions are clearly indicated, including surgical repair.

Ethicon communicated the above-mentioned warning language, which includes risks that are well known to pelvic surgeons, to physicians and patients prior to Mrs. Gomez's hysterectomy, Prolift+M and TVT-O procedures. Ethicon's 2008 patient brochure clearly states that Prolift is a permanent medical device, that patients should discuss the risks and benefits of the procedure with their surgeons, and that complications could include, among others: difficulty urinating, pain, scarring, pain with intercourse, risk of mesh exposure that could be associated with pain during intercourse for the patient and her partner, as well as the possibility that mesh exposure may require treatment, such as vaginal medication (estrogen cream) or removal of the exposed mesh.

Similarly, the Prolift+M IFU that would have been in effect at the time of Mrs. Gomez's October 2009 implant and hysterectomy, suggested that surgeons attend the Professional Education that Ethicon has made available and included the following warnings to the pelvic floor surgeons who would have been qualified by their licensing boards and hospitals, and hopefully their own competence and confidence in their ability to perform the Prolift procedure. Dr. Ehsani, by her fellowship training certainly met these criteria.

ADVERSE REACTIONS

• Potential adverse reactions are those typically associated with surgically implantable materials of this type, including hematoma, urinary incontinence, urinary retention/obstruction, ureter obstruction, voiding dysfunction, pain, infection potentiation, wound dehiscence, nerve damage, recurrent prolapse, inflammation, adhesion formation, fistula formation, contracture, scarring and mesh exposure, erosion or extrusion.

• Punctures or lacerations of vessels, nerves, bladder, urethra or bowel may occur during GYNECARE PROLIFT Guide passage and may require surgical repair.

• Potential adverse reactions are those typically associated with pelvic organ prolapse repair procedures, including pelvic pain or pain with intercourse. These may resolve with time.

• Dissection for pelvic floor repair procedures has the potential to impair normal voiding for a variable length of time.

WARNINGS AND PRECAUTIONS include some of the following

• Users should be familiar with surgical procedures and techniques involving pelvic floor repair and non absorbable meshes before employing GYNECARE PROLIFT+M Pelvic Floor Repair Systems.

• Acceptable surgical practices should be followed in the presence of infected or contaminated wounds.

• Post-operatively the patient should be advised to refrain from intercourse, heavy lifting and/or exercise (e.g. cycling, jogging) until the physician determines when it is suitable for the patient to return to her normal activities.

• Avoid placing excessive tension on the mesh implant during placement.

• Refer to the recommended surgical technique for the GYNECARE PROLIFT Pelvic Floor Repair System for further information on the GYNECARE PROLIFT procedures.

• Use the GYNECARE PROLIFT+M Pelvic Floor Repair Systems with care, and with attention to patient anatomy and proper dissection technique, to avoid damage to vessels, nerves, bladder, bowel and vaginal wall perforation.

• Transient leg pain may occur and can usually be managed with mild analgesics.

• Do not remove the GYNECARE PROLIFT Cannulas from the patient until the mesh implant has been properly positioned.

The Prolift Monograph further informs surgeons about patient selection, preparation, surgical technique, hydrodissection, full thickness dissections, complications such as dyspareunia and vaginal pain, mesh complications (erosion, exposure, and extrusion), and provided a summary of early clinical data. The Monograph also notes that complications are also related to the surgeon's experience and technique, in addition to individual patient factors. Not surprisingly, studies have shown drastic improvement in success and complication rates as surgeons advanced in the learning curve, and this holds true for any surgical technique.

It is my opinion, to a reasonable degree of medical certainty, that the Prolift+M IFU along with the TVT-O IFU which incorporated and was supplemented by professional education and the surgical technique guide, adequately warned pelvic surgeons, such as Dr. Ehsani who completed a 3 year Fellowship under the guidance of Dr. Lucente, who had extensive experience with mesh, of the appropriate risks and complications related to the Prolift & Prolift+M and TVT-O. Pelvic floor surgeons who would have the licensing, credentials, and privileges to perform the Prolift & Prolift+M and TVT-O procedures would be aware of the risks and complications that can occur with any pelvic surgery. These include but are not limited to: pain and dyspareunia, both of which can be short term or chronic and voiding dysfunctions. Pelvic floor surgeons would be aware of such risks, and should be confident in their ability to manage complications from the procedures they feel competent to perform, based on their medical training, medical literature, their clinical experience, professional education, and through the Prolift & Prolift+M and TVT-O IFU/Technique Guide/Surgeon's Monograph.

Through my training and experience, my review of the medical literature, my discussions with colleagues, my experience with teaching procedures to others, and my review of FDA documents, society statements, and clinical guidelines – complications such as urinary problems, incontinence or retention, dyspareunia, pain and scarring are well-known complications that can occur with any pelvic floor surgery for treatment of pelvic organ prolapse and/or stress urinary incontinence and we are taught this as early as medical school and it is an often discussed subject in residency for pelvic surgeons. These complications are basic, elemental pelvic surgery risks and are not unique to Prolift+M or TVT-O. The complications that are unique to Prolift+M and TVT-O involve complications from the mesh itself and its surgical introduction.

Even native tissue repairs have complications of suture exposure, erosion, granuloma, injuries from the surgical instruments to actually introduce these sutures, along with scarring and dyspareunia. Sacrocolpopexy, often considered the gold standard for the management of apical vaginal or uterine prolapse, has a risk of mesh erosion, dyspareunia even without exposure and other intra-abdominal surgical complications. Non-synthetic grafts can also erode as shown by the earlier mentioned SGS systematic review by Abed. The benefits of Prolift+M and TVT-O outweighed the risks, and this was certainly the case in October of 2009. It has utility to surgeons because of its usability and reproducibility as well as it excellent anatomic correction of

prolapsed organs, treatment of SUI, significant improvements in subjective cures and quality of life and acceptable and manageable complication and risk profile. It is minimally invasive compared to laparotomy and utilized mesh constructed of material which had been in use in the field for 50 years before it. The level 1 suspension of the proximal Posterior Prolift+M to the sacrospinous ligament (SSL) is built on surgical techniques that had been in place in the field for decades. Overall the design of the Posterior Prolift and Prolift+M not only made sense, but it was consistent with the decades-long march towards optimizing correction of prolapse with adjunct material and was state of the art.

The FDA provided an update on surgical mesh in July 2011, almost 2 years **after** Mrs. Gomez's surgery. It determined "that serious complications are not rare, contrary to what was stated in the 2008 *PHN*, and transvaginally placed mesh in POP repair does not conclusively improve clinical outcomes over traditional non-mesh repair." Experienced pelvic floor surgeons such as Dr. Ehsani, in her fellowship, would be aware of the frequency and severity of complications seen in her high volume practice as well as the complications reported by other surgeons in the peer-reviewed medical literature, well before this update was published.

In response to the FDA's communication, in November 2011, the American Urological Association (AUA)'s position statement that "**certain patients may benefit from mesh techniques** and the use of mesh should be a choice made after a careful discussion between surgeon and patient. Better data are needed to determine the appropriate role of vaginal mesh technique in the treatment of POP. It is also important **that many of these complications are not unique to mesh surgeries and are known to occur with non mesh POP procedures as well**". The AUA in 2011 stands by their 2009 AUA guideline for the Surgical Management of Stress Urinary Incontinence which concluded that "**synthetic slings are an appropriate treatment for women with stress incontinence with similar efficacy but less morbidity than conventional non mesh sling techniques**".

In December 2011, the American College of Obstetrician and Gynecology (ACOG) along with the American Urogynecologic Society (AUGS) published their committee opinion. Recommendations that outcomes, both objective and subjective, should be defined and that complications and reoperation rates should be reported as outcomes. POP vaginal mesh repair should be reserved for high risk individuals. Surgeons should undergo specialized training. Compared to existing mesh products and devices, new products should not be assumed to have equal or improved safety unless clinical long term studies are available. **They support continued audit and review as well as a registry for all current and future vaginal mesh implants**. They recommend rigorous comparative effectiveness studies and lastly that patients should provide their informed consent after reviewing the risks and benefits of the procedure as well as discussing alternative repairs. **They did not recommend abandonment of vaginal mesh augmentation for POP surgery.**

In March of 2013, the AUGS' position on restriction of surgical options for pelvic floor dysfunction stated that "**A complete restriction on the use of surgical mesh safety was not the intent of the FDA communication**". The decision on surgical alternatives should be made by the patient and her surgeon. "**A ban on surgical mesh would prohibit the surgical studies mandated by the FDA and recommended by the NIH, ACOG and AUGS. In some circumstances, transvaginal mesh for pelvic organ prolapse may be the most appropriate surgical option… Any restriction of mesh slings for stress urinary incontinence is clearly not supported by any professional organization or the FDA**… Instead of a ban on mesh we recommend the implementation of credentialing guidelines so that mesh procedures are performed by qualified surgeons". Even on the FDA's web site was stated in 2013 that "the safety of multi-incision slings is well established in clinical trials that followed patients for up to 1 year." (FDA, 2013)

The IFUs for TVT-O and Prolift+M list the complications that are specific to the use of the device. Mesh degradation, chronic inflammation, and cytotoxicity are not considered complications. I have not seen in my practice or in the peer-reviewed medical literature any clinical significance attributed to alleged degradation or cytotoxicity of either TVT-O or Prolift+M. There have been no reports of malignancy in humans caused by polypropylene suture or mesh. Additionally, there is no reliable evidence that supports a causal connection of TVT-O or Prolift+M to cancer. Prolene suture material has been FDA approved and utilized in many different surgeries in different areas of the body for over 50 years with high safety record. All over the world, in men and women, billions of sutures since the 1970's have been used in cardiovascular and ophthalmic surgery, neurosurgery, plastic and reconstructive surgery, as well as general, urological and gynecological surgery. Tens of millions of polypropylene hernia meshes have been inserted since the 1980's. Over three million suburethral sings and hundreds of thousands of apical and vaginal meshes have been used, without any evidence of systemic disease or associated cancer (King, 2014 - Moalli, 2014 - Linder, 2016).

The potential for "degradation of the polypropylene which weakens the mesh to the point that it literally falls apart during dissection" as stated by Dr.Ostergard, is contrary to his own theory of how the mesh reacts within the body, migration of cells in the interstices, collagen and scarring. It is contrary to the massive documentation in the literature as well as the clinical experience of surgical success using mesh. If polypropylene mesh behaved in this manner, weakened and fell apart, abdominal walls would be bulging out and hernia mesh would not be considered as standard of care for most hernia repair. If polypropylene behaved in this manor, vaginal apexes would be descending at an alarming rate and sacrocolpopexy would have never been considered for gold standard in level 1 suspension. If polypropylene behaved in this manner, millions of women would suddenly return to urethral hypermobility and stress urinary incontinence. Many of my colleagues, as well as myself have revised, transected and resected polypropylene slings and meshes and have never encountered this "degradation" after primary insertion of mesh. I have also had to enter the abdomen on occasion through polypropylene sutures, placed decades prior, and found the suture and original knot intact.

The medical literature along with clinical experience in residency, fellowship for some, and in actual practice, are typically how surgeons get information about frequency and severity of complications. Complications can occur from a variety of patient risk factors, such as a patient with diabetes, obesity, smoking, or patient's own tissue response to a surgical trauma or compromised tissues, estrogen deficiency, or wound healing problems. Likewise, complications can occur from surgical technique and learning curves.

Treatment History of Mrs. Gomez:

Based on information made available to me as of February 28th, 2016.

08/27/2001	First available medical record from TriValley Primary Care (TVPC). Mrs. Gomez experienced flank pain and was diagnosed with a urinary tract infection for which she was prescribed Bactrim and returned on September 4, 2001 as her symptoms persisted and new antibiotic was prescribed.
10/03/2001	TVPC- complaint of frequency, burning and pain for which an office UA is positive and the patient treated for a urinary tract infection.
10/05/2001	ADULT PEDIATRIC UROLOGIC ASSOCIATES-referred by her family doctor in consultation.
10/19/2001	ADULT PEDIATRIC UROLOGIC ASSOCIATES-follow up letter where Mrs. Gomez flank pain was gone. Her culture was positive for E coli and treated with Macrobid. The CT-Scan showed a small 2 mm calculi. **"Rose continues to complain of problematic frequency every two hours, which is intrusive in her life. She has mild nocturia, which is not terribly bothersome (1-2x)".** "The patient is interested in the frequency/urgency study, if she is not then will proceed with anticholinergic tx".
05/22/2002	TVPC- Mrs. Gomez complains of back and shoulder pain, strong smell of urine and burning Also patient wanted "something for weight control" and the physician was considering Meridia.
05/24/2002	TVPC- Patient made an appointment with her physician as she has questions about Tuberculosis.
07/17/2002	TVPC- Patient presents with left sided pain and diagnosed with Costochondritis and told to take over the counter Aleve twice per day.

02/03/2003	TVPC- Patient called complaining of back pain for several days and had been taking Ibuprofen three tablets four times per day. The office attempted to call the patient twice and left messages on her answering machine.
03/30/2003	GRAND VIEW MEDICAL PRACTICES OB/GYN ASSOCIATES-patient presents for her annual, but in the chief complaint "annual exam and c/o pain during intercourse and while sitting". (This complaint is not addressed in the EMR notes).
04/24/2003	GRAND VIEW MEDICAL PRACTICES OB/GYN ASSOCIATES-On the intake forms, the patient is on Dexatrim for weight loss, circled UTI as past medical history, as well as, a family history of breast, ovarian and uterine cancer.
11/282005	TVPC- Patient had been complaining of upper respiratory issues and was diagnosed with asthmatic bronchitis and placed on Biaxin, RobAC and Albuterol.
01/26/2006	ST LUKE HOSPITAL-ER visit for abdominal pain, fever and diarrhea. Patient discharged with a prescription for Cipro after CT-Scan performed after midnight.
01/27/2006	CT ABDOMEN & PELVIS during ER visit for abdominal pain-kidneys demonstrate normal function…2 mm non-obstructing calculus of left kidney…unchanged. Pelvis within normal limits, no evidence of acute pathology.
02/16/2006	TVPC- Patient follow up from emergency room visit experienced fevers and right lower quadrant abdominal pain. She was diagnosed with a urinary tract infection and placed on antibiotics. At this follow up was improving.
03/16/2006	TVPC- Patient presented with left shoulder pain after lifting cases of soda. She was prescribed Naprosyn, Vicodin, Flexeril.
05/06/2006	TVPC- Mrs. Gomez presents with a temperature of 103, low back, suprapubic and right flank pain. Although her UA is negative, cultures are sent and she is prescribed Cipro. Cultures subsequently were positive Klebsiella pheumoniae.
09/26/2006	GRAND VIEW MEDICAL PRACTICES OB/GYN ASSOCIATES-annual exam done by Dr. Adibi. Limited typed documentation that shows essentially a normal exam. But there is a hand written note **"c/o painful intercourse-co/lower abdomen pain x 1-2 mo".** (Not addressed at this visit: "in computer as annual")
10/06/2006	TVPC- Patient complaining of urgency, frequency, dysuria and treated with Bactrim DS with cultures positive E coli. She is also encouraged to continue a weight loss program.
10/16/2006	TVPC- Patient presents with fever, sore throat, vomiting, diarrhea and is diagnosed with bronchitis and prescribed Tigan, Albuterol inhaler and Advair.
10/30/2006	TVPC- Mrs. Gomez presents with a fever of 103.1 and symptoms of frequency, urgency, dysuria, and back pain. Although the urine shows only small leukocytes,

small blood (patient is menstruating), nitrates are negative she is diagnosed with a Pyelonephritis and is prescribed Tigan and Cipro for seven days.

12/09/2006 TVPC- She returns to the office after finishing course of Cipro on 12/08/2006 that was prescribed one week earlier but still complaining of urgency, frequency and dysuria. Her UA this time is completely negative but she is prescribed Levaquin for five days. A culture is sent and returns positive for Staphylococcus (usually a skin contaminant) on 12/14/2006.

12/18/2006 ST-LUKE'S QUAKERTOWN HOSPITAL- UROGRAM & Voiding CYSTOURETHROGRAM studies ordered by Dr. Motley. Urogram: Examination of intrarenal collecting systems shows nodular and linear areas…suspicious for Papillary Necrosis…possibly related to Pyelonephritis. The voiding cystourethrogram is normal.

01/15/2007 TVPC- Patient complains of cough, congestion, sore throat but **also** urinary urgency, frequency. Her UA is negative. She is diagnosed with bronchitis and prescribed a Z-pack.

02/08/2007 ADULT PEDIATRIC UROLOGIC ASSOCIATES-Letter from Dr. Landau: Mrs. Gomez was evaluated for recurrent episodes of Pyelonephritis. In his history, Dr. Landau writes that "she does admit that her urine becomes malodorous several weeks prior to developing frank Pyelonephritis". After evaluation by CT-Scan, IVP, and Voiding Cystourethrogram, he suggests a standing **prescription Levaquin for three days if malodorous urine and to get the urine cultured**. He also recommends **treatment with Macrodantin two to three times per week, prior to intercourse to prevent bacteriuria.**

05/10/2007 TVPC- Patient presents with discomfort of the anterior chest wall that lasts a few seconds. She is diagnosed with muscular origin for her pain and reassured and told to take Ibuprofen.

06/18/2008 TVPC- Mrs. Gomez presents with body aches, low back pain, urinary urgency and frequency, as well as, nausea and diarrhea. A UA is negative. She is diagnosed with gastroenteritis and was told to take over the counter Immodium.

09/03/2008 GRAND VIEW MEDICAL PRACTICES OB/GYN ASSOCIATES -patient complains of "itchy pain". Patient is diagnosed with a yeast infection, given a script for Diflucan and told to come back for her annual.

09/13/2008 TVPC- After returning from a one month trip to Venezuela, she presents with a yeast infection that she had treated with Monistat and had seen a gynecologist locally, she was prescribed Diflucan. No gynecological exam was performed.

10/21/2008 TVPC- Patient called with vomiting and fever for one day. Was suggested conservative measures

01/06/2009	GRAND VIEW MEDICAL PRACTICES OB/GYN ASSOCIATES-Intake form dated 01/06/2009 for a review of symptoms where there is a note of frequent urination and vaginal discharge reviewed by unknown signature but the review date is 09/23/2009.
01/16/2009	GRAND VIEW MEDICAL PRACTICES OB/GYN ASSOCIATES-Annual exam by Dr. Steven Block and at this visit no complaints at all nor any symptomatology or abnormality found on any of the hand or typed notes. No follow up is planned other than next year's annual.
02/09/2009	TVPC- Mrs. Gomez presents with home temperature of 103 and upper respiratory infection and diagnosed with bronchitis and prescribed Cefurozime 250 mg twice a day for ten days, Hycodan syrup and rest at home for two to three days.
02/10/2009	TVPC- Patient called her family doctor's office due to vomiting all day and wanting different medication. She was told to hold off on all of her medication for one day and come to the office tomorrow (02/11/2009). No appointments are registered until April.
04/08/2009	ST LUKE HOSPITAL-ER visit for abdominal and back pain, diarrhea, urinary frequency. Low pelvic/suprapubic pain is noted as well as low back pain on exam. She is treated with IV Cipro, Dilaudid and Phenergan. She is then discharged with a prescription for oral Cipro and Vicodin.
04/09/2009	TVPC- Follow up from ER visit last evening for urinary tract infection give Cipro. Feels weak and dizzy, no new treatment initiated as C&S are still pending.
04/10/2009	TVPC- Patient returns to the office and has been on Hydrocodone since her ER visit. Her frequency has improved. She still is tired and has discomfort. "Rose does remind me she has frequent UTIs and did have evaluations two years ago". Culture returns positive for E coli.
06/19/2009	TVPC- Patient is scheduled for physical exam, few problems, unable to lose weight despite diets, feels hungry all the time. Pain in legs, knees, ankles, treatment is read South Beach diet, Ibuprofen, ice to knees.
07/09/2009	TVPC- She presents with symptoms of cough, chills, chest and back hurts, weak and body aches. Diagnosed with bronchitis as a flu test was negative and prescribed Z-pack.
08/09/2009	TVPC- Telephone call from patient explaining that her blood pressure has been up and down. Patient told to monitor and make appointment in two weeks.
08/21/2009	TVPC- She presents to the office with complaints of pain with urination. At this visit, her UA shows moderate leukocytes and she is diagnosed with cystitis for which she is prescribed Cipro 250 mg twice a day for three days and HCTZ for her hypertension.

09/03/2009 TVPC- Patient presents with a temperature of 99.3 and abdominal pain, back pain, dysuria with urinary frequency. The UA is only positive for blood, but the patient is menstruating. She is then treated empirically with Bactrim DS for three days. She also enquires about weight loss surgery. The hand written notes are difficult to read but there is a possible referral made as well as a nutritional evaluation. She is to be seen in 6 months after diet & exercises.

9/23/2009 GRAND VIEW MEDICAL PRACTICES OB/GYN ASSOCIATES-Mrs. Gomez is seen by her obgyn Dr. Boylan. Her chief complaint is documented by an ancillary staff: **"feels like something is dropping, hard time empty bladder + bowels, painful intercourse".** Dr. Boylan writes "c/o feeling like she has a tampon in vagina all the time. Acc with hesitancy and doesn't feel like she empties bladder or bowel. Pt with GSUI-mild**. Pt c/o abd pain + back pain. Pt with dyspareunia-positional has never been pain free**". Dr. Boylan performs a gynecological examination and concludes "uterine prolapse, cystocele & rectocele, pt also c **GSUI**. Due to age and risk of recurrence possibly need for sling-will have pt see Dr. Lucente for consult on possible mesh".

10/06/2009 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-letter dictated by Dr. Ehsani to Dr. Boylan of GRAND VIEW MEDICAL PRACTICES OB/GYN ASSOCIATES-patient is seen in consultation requested by Dr. Boylan (Mrs. Gomez's obgyn)-a note of a six month history of SUI and two to three year history of bladder symptomatology is noted. "She leaks a few times a month in what amounts to **drips with coughing, sneezing and lifting heavy things. She also complains of severe bloating and cramping with a full bladder which is relieved after voiding.** She also **complains of moderate voiding dysfunction in the form of incomplete bladder emptying.** On average she voids 11-12 times daily with one to two times of nocturia. There is also a history of recurrent urinary tract infections over the last three years".

"Review of prolapse symptomatology reveals a one year history of pressure, heaviness, and bulge within the vagina. She **complains of incomplete rectal emptying and has to engage in stenting to completely empty. There is also a two to three history of dyspareunia upon entrance and deep penetration".**

Dr. Ehsani writes that she "**had a long discussion with Rose** regarding various treatment options for her symptomatic pelvic relaxation and urinary incontinence. These included conservative management, as well as, surgical intervention with the use of interposition, synthetic mesh placement both vaginally and abdominally". Dr. Ehsani also "shared with the patient that the transvaginal interposition synthetic mesh placement offers the potential increased durability which has been demonstrated; however, does carry increased risk of complications related to mesh"… "I also shared with her all the risks/benefits, alternatives of an abdominal procedure which would be in the form of an abdominal hysterectomy, abdominal sacral colpopexy, and pubovaginal sling

TVT-O with diagnostic cystoscopy".

On the actual patient paper record, it is noted that Mrs. Gomez is being referred "for evaluation of dyspareunia, mixed incontinence, frequent UTIs, prolapse,? IC".

Dr. Ehsani's own handwritten notes detail the above mentioned findings and writes "engages in stenting to completely empty". "**Review of bowel symptomatology reveals a positive history for constipation which is alleviated with herbal tea**". At this initial visit, a thorough pelvic exam is also performed. There is urethral hypermobility with a 0 degree progressing to 70 degrees with Valsalva. The pelvic exam at rest shows a stage 2 anterior and posterior vaginal wall prolapse and a stage 1 uterine prolapse. On standing though, the most dependent portions of the anterior and posterior vaginal wall were at +1.5 cm with the cervix at -1 cm. This results in an actual stage 3 anterior and posterior prolapse and a stage 2 uterine prolapse. Total vaginal length was measured at only 8 cm. Her pelvic floor muscle strength was 0/5 demonstrating the inability of voluntarily contracting her pelvic floor muscles. An uroflow is performed demonstrating a normal curve, with a voided volume of 241 ml and a PVR of 64 ml. A urine dip was negative. During this first visit, a presumptive diagnosis of painful bladder syndrome and interstitial cystitis is made and Mrs. Gomez is to engage in a bladder diet, behavior modification, bladder retraining (timed voiding). A prescription for Elmiron 100 mg three times per day is given.

Surgical options are discussed: "Abd Sacral Colpopexy, Pubo-vaginal Sling TVT-O, Total Abd Hyster (TAH), Vag Hys, Total Prolift, TVT-O". A consent form is also initialed line by line and signed by both Mrs. Gomez and Dr. Ehsani. This consent includes the general risks for the procedure.

10/06/2009 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-physician consultation visit regarding decision for surgery (informed consent). This is a detailed information sheet where Mrs. Gomez initialed each paragraph along with Dr. Ehsani. It stipulates that Mrs. Gomez was counseled regarding alternative non-surgical therapies. She was advised of various surgical options including abdominal, laparoscopic and vaginal approaches. Native tissue repair vs graft insertion was fully reviewed. The **"inherent risks of graft including but not limited to infection, erosion, and chronic inflammation, acute and chronic pain, pain with intercourse, (both of which can be refractory to treatment) fistula, disturbance in bowel or bladder function, any of which may require additional surgery for the mesh revision. The patient is aware of relatively limited medical data comparing native tissue repairs to transvaginal synthetic graft repairs to date, and that some physicians consider their use to be lacking in sufficient scientific medical evidence even though FDA approved. The patient was advised regarding the**

Oct 2008 FDA notification regarding these issues and provided the website address for further reference www. FDA.gov. The patient was provided a written copy of the patient labeling from the surgical mesh manufacturer". This freestanding paragraph was also initialed by Mrs. Gomez and Dr. Ehsani. Other general risks of surgery and customary information reviewed in the informed consent process is also discussed and initialed.

10/14/2009 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-Mrs. Gomez returns for a second visit with Dr. Ehsani regarding her decision for surgery and **another similar informed consent is initialed by Mrs. Gomez and Dr. Ehsani**, with a level 4 established visit usually of 25 minutes.

10/15/2009 ST LUKES HOSPITAL-Dr. Ehsani presumably dictates her history and physical for surgery planned on 10/22/2009. This reflects essentially her initial consultation with Mrs. Gomez. She again mentions that the risks, benefits and failure rates were explained to the patient and consents were obtained.

10/22/2009 ST LUKES HOSPITAL -Mrs. Gomez undergoes a vaginal hysterectomy, enterocele repair, posterior colporrhaphy, and posterior vaginal extraperitoneal colpopexy using Gynecare posterior Prolift+M. She also undergoes a sub-urethral sling using TVT-O, without complication.

10/23/2009 ST LUKES HOSPITAL-Discharge summary states that other than an episode of shaking relieved by an IV fluid bolus the evening of the surgery, her postoperative course was unremarkable. Her pain was controlled, was afebrile and vitals were stable. She had passed a voiding trial and was discharged without her catheter. She is discharged on standard postop medication that includes stool softeners (Colace BID).

11/10/2009 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-2 week postop visit-The patient complains of burning in the urethra all the time, vaginal discharge, and occasional incomplete bladder emptying. She denies SUI, urgency, frequency, hesitancy, and intermittent flow. On exam, finds mild granulation at apex, for which silver nitrate is applied. An office UA is negative and patient is to start Elmiron, continue bladder diet, and behavior modification.

11/20/2009 TVPC-Mrs. Gomez sees her family doctor for what appears to be a blood pressure check and informs her physician she had a hysterectomy and repair of cystocele and is taking Elmiron 100 mg three times a day. "She is slowly recovering from this and urine is not completely normal. Rose looks fine, but moves a little slowly".

12/09/2009 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-6 week postop visit-complaining of not emptying her bladder all the time now, has to lean forward on toilet to empty. She denies constipation, is still

on stool softeners twice per day, and denies vaginal bulge, pressure/fullness or protrusion symptoms. On exam, there is an irritation of the posterior perineal skin without infection and is give Estrace vaginal cream for this. A voiding trial reveals a PV Scan of 294 ml and she is instructed to self- catheterize three times a day until a surgery for resection/revision of sling on 12/16/2009.

12/16/2009 ST LUKES HOSPITAL-Patient is returning to the operating room for a revision of her TVT-O Sling and cystoscopy. According to the operative report, after the Foley has been placed and the bladder drained, the vaginal mucosa is injected sub-urethrally with Marcaine diluted with epinephrine. A 2 cm incision is made and careful sharp and blunt dissection reveals the location of the sling. It is then isolated and incised midline. A cystoscopy is then performed which demonstrates normal urethral findings without any evidence of lesions or trauma. The vaginal incision is then closed and the bladder drained using straight cath.

12/29/2009 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-2 week postop from sling revision-9 weeks from index surgery. At this visit, all of the Lower Urinary Tract Symptoms are negative. She voided 237 ml with a scanned residual of 21 ml. Again on exam had erythema of the peritoneum, noncompliant for using Estrace cream daily as was prescribed last visit.

01/29/2010 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-6 week postop visit-sling revision-13 weeks from index surgery-Although all LUTS are checked “no” on the paper documentation, she does complain of burning with urination, a foul smell, there is no urinary urgency, incontinence and voids six to eight times a day. Her pelvic exam demonstrates a well-supported vagina and the previous erythema has resolved. Her urine only shows trace to small leukocytes. No treatment is offered, but a note states that the patient would be called if the culture is positive. (No documentation available)

07/13/2010 TVPC-Patient comes in with complaints of three days of possible tachycardia and feels light headed. She is then prescribed a Holter monitor.

10/15/2010 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-one year follow up with Dr. Ehsani. All LUTS are checked “no” but there is a complaint of “burning + irritation per vagina. Dr. Ehsani notes in quotation **“uncomfortable” during intercourse “uncomfortable not pain”.** Sexual activity questionnaire does answer “yes” to dyspareunia, “yes” to PISQ, and also **“yes” to satisfaction**. Vaginal support symptoms are checked “no” including bulge, pressure/fullness, or protrusion. All bowel function symptoms are negative including constipation, defecation dysfunction, but she is no longer taking stool softeners. An exam is performed and finds a relaxed vaginal outlet “raw in appearance”, good vaginal support with a total vaginal length of 7.5 and (C = -5.5). Dr. Ehsani finds tenderness of the perineum and tenderness of the

posterior vaginal wall midway. She also diagnoses Myositis/Myalgia, and at this visit, a posterior vaginal injection of 2 ml Sensorcaine/1 ml Depo is performed. A further diagnosis of candidiasis is noted and a prescription for Diflucan is given.

11/15/2010 TVPC-Patient complains of red eyes and feels tired and frequent snoring. A sleep study is ordered.

12/17/2010 SLEEP STUDY performed: positive for sleep apnea.

01/28/2011 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-a follow up appointment is planned. The patient complains of burning/irritation per vagina. **"Occasional "discomfort" with different positions during intercourse, declines pain, just discomfort. This only applies when patient has already achieved orgasm and husband hasn't".** On examination, there are findings of good vaginal support, no tenderness at vaginal apex, mild TTP on the right mid posterior vagina. Dr. Ehsani's conclusions are that this is appropriate vaginal discomfort with occasional positions during intercourse. She advises Mrs. Gomez to have less aggressive intercourse and wine for relaxation. She also wants her to continue vaginal estrogen cream as needed for discomfort, dryness, and mild atrophy.

03/24/2011 SLEEP STUDY-follow up visit-Results of study reviewed, as well as, risks vs benefits, she is not interested in surgery (CPAP vs dental appliance). Will need follow up.

04/05/2011 TVPC-Patient comes to the office complaining of cold symptoms, cough, shortness of breath and fever for two to three days. She is treated with a Z-pack.

05/26/2011 TVPC-Presents for her annual exam with Dr. Albrecht: **"Rose has been fine over the year with no particular illness but does complain of difficulty losing weight"…"** "the entire family is on a diet". Her weight is 216 pounds and her blood pressure is 128/64. No gynecological exam is performed. "Rose is considering CPAP". (Her sleep apnea was diagnosed six months prior). She is prescribed to exercise six days per week.

06/06/2011 TVPC-Patient complains of burning and frequency for three days. On examination: general appearance is normal, in no acute distress…fatigued. Her abdominal is "soft, mild, right lower quadrant suprapubic, non-distended no rebound no guarding. Left CVA tenderness. Her UA is negative but is diagnosed with a UTI and Pyelonephritis. She is prescribed Macrobid for seven days, no culture is done.

07/05/2011 TVPC-Patient returns to her family doctor, Dr. Moore with complaints of "fever of 104 to 106", low back pain, abdominal pains for 24 hours, nausea and vomiting. In the office, there is a hand written note describing upper respiratory infection, cough and fever. General appearance "ill appearing but moves easily

for exam". Temperature is 102.4. UA is positive for nitrates and Cipro is prescribed for ten days.

07/16/2011 ST LUKES QUAKERTOWN HOSPITAL- ER visit post MVA (hit from behind), brought by ambulance to the ER in a neck brace complaining of right shoulder pain and **lumbo-sacral pain**…overall pain is 5/10. Complete evaluation with X-Rays of shoulder & lumbar area and CT-Scan of brain & neck; she is discharged with Tylenol and a prescription for Flexeril. The discharge instructions state: "rest as much as possible for the next 2 days…follow up with your family doctor in 2 days"

07/25/2011 ST LUKES QUAKERTOWN HOSPITAL- SLEEP STUDY follow up with CPAP titration. Encouraged use of CPAP at night.

07/20/2011 TVPC-Mrs. Gomez follows up after a MVA five days prior. Had headache and right shoulder pain and is prescribed Naprosyn and Flexeril. She is to be off work x 3 days.

08/04/2011 TVPC- She is seen by a CRNP and complains of persistent right arm pain prescribed Ibuprofen over the counter and Flexeril at night. She is sent to physical therapy and taken off work for six days.

09/07/2011 Mrs. Gomez and her husband file a complaint against Ethicon in Eastern District of Pennsylvania

09/19/2011 TVPC-She follows up for her right shoulder pain. Has numbness in her fingers and "needs note for work". She receives an injection into her shoulder and a note is sent for her work "as does heavy lifting".

09/20/2011 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-Patient is seen by Dr. Bhatia for pelvic pain and pain during intercourse, as well as, having bowel issues. LUTS are negative for urgency, hesitancy, incontinence. She denies having a slower stream or interrupted stream. Mrs. Gomez complains of constant bladder pain and persistent dyspareunia that she attributes to the surgery. She complains of low back pain associated with dyspareunia. She has no vaginal discharge, itching, or burning, no bulge symptoms, "no pelvic pressure/heaviness". Her bowel symptoms include diarrhea, incomplete bowel emptying of stool, and constipation. A full examination is not performed as a Post Void Residual using a urethral catheter was **"very uncomfortable for the patient and urethral area was tender".** The urine is sent for culture and these are negative. She is to follow up in two weeks for a vaginal exam, review of bladder diary, and cystoscopy.

09/22/2011 ST LUKES QUAKERTOWN HOSPITAL- MRI shoulder shows mild subacromial/subdeltoid bursitis and tendinosis.

10/04/2011 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-Mrs. Gomez returns for her vaginal exam which notes that the bladder was tender. There is no vaginal prolapse, total vaginal length = 8 cm, (C=7). The vagina had scar tissue/adhesions in the posterior vaginal wall. Minimal. Mesh does not feel taught. A rectal exam was performed and found that the rectum was non-tender. There was no posterior mesh exposure and no sling mesh exposure, although palpable under thin vaginal epithelium in the left anterolateral sulcus. There was **diffuse levator spasm diffuse vaginal tenderness**. Patient states that anterior pain is different from posterior pain. At this visit, counseling and education is performed and patient restarted on Elmiron. Pelvic floor trigger point injections are performed and the patient is counseled on cystoscopy with bladder distention.

10/06/2011 ST LUKE HOSPITAL-dictated pre-op history and physical noting that she has pelvic pain that occurs approximately 75% of the time, burning dull aching occasionally with some cramping. **She has pelvic pain related to her burning sensation in the bladder area, along with bladder pain that she has had for many years**. She has tried Elmiron in the past for a few weeks, but was unsure if it helped and stopped as the medication is too expensive. In addition, **she suffers pain with vaginal intercourse with a history of dyspareunia for several years**. On examination, the abdomen is soft, non-tender, and non-distended. Her pelvic exam shows no evidence of pelvic organ prolapse, tenderness in the anterior vaginal wall to palpation, as well as, tenderness on the posterior vaginal wall likely due to levator spasm, as well as, scarring. Her impression is possible IC or painful bladder syndrome.

10/10/2011 ST LUKE HOSPITAL-Mrs. Gomez is taken for a cystourethroscopy with bladder hydrodistention. According to the operative report, the bladder was found to be grossly normal, no trauma and no foreign body, but with hydrodistention the mucosa was positive for findings of petechiae with mild amount of terminal hematuria, no Hunner's lesion.

10/17/2011 TVPC- Follow up shoulder pain is much better. "On personal time from window company."

10/25/2011 INSTITUTE FOR FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY-2 week postop visit-There is written contradictions in the chart as it is noted that the patient has nocturia with incontinence, no mixed incontinence, no urge incontinence, and no incontinence with activities. Her bladder pain was worse two days after hydrodistention but improved since. She then starts bladder instillations weekly using Lidocaine, Methylprednisolone, and Heparin.

11/01/2011 Instillation #2 "feels good, no problems to report". Under GYN history: "symptoms controlled since last procedure".

11/11/2011 Instillation #3 "better".

11/18/2011	Instillation #4 "**feels good, instillations are helping**".
11/29/2011	Instillation #5 "**feels that they are helping and working**".
12/9/2011	Instillation #6
12/16/2011	Instillation #7 "has no nocturia. Urinary urgency, dysuria, new onset in last few days, has urinary frequency", no incontinence. UA was performed and was negative.
12/27/2011	Instillation #8 "held last instillation for four hours, sexually active. **Dysuria rare from IC, feels much better".** Bowel symptoms: constipation. **"Pain symptoms: vaginal pain during intercourse improved".**
02/06/2012	TVPC-Patient presented for low back pain for five days. Worse with coughing, laying down, and roll onto side of bed. She is diagnosed with low back pain and prescribed Naproxen for seven days and Skelaxin for fourteen days.
05/14/2012	ECHOCARDIOGRAM due to abnormal EKG, clearance prior to weight loss surgery. In her review of systems notably "no urinary tract problems reported, general complaints equal fatigue". Recommends need to follow up with sleep medicine for sleep management.
07/18/2012	FOREST HEALTH MEDICAL CENTER- patient is seen by Dr. Koganski who performs a history and physical for Dr. Marymor prior to her weight loss surgery. In his review of medication, patient is only taking Elmiron as needed. A review of symptoms shows back and knee pain, dyspnea on exertion, recurrent UTIs. Her weight is 216lbs, her abdomen is soft, non-tender, non-distended. Amongst the diagnosis are Obstructive sleep apnea, hypertension with change of medication from HCTZ to Losartan, hypertriglyceridemia, Interstitial cystitis and she is to stay on her Elmiron and recurrent bronchitis.
08/01/2012	FOREST HEALTH MEDICAL CENTER-patient undergoes a Laparoscopic Sleeve Gastrectomy for which they insert a **urinary Foley catheter.** Interestingly in a medical reconciliation list the patient had stopped her Elmiron "two months ago".
10/12/2012	TVPC-She turns to her family doctor as she recently used an Enema and was bleeding. She has had issues with constipation for one month duration. She recently used an Enema and was bleeding. She tried to use Ex-lax three to four times, followed by Colace twice a day, and used Enemas several times. Had weight loss surgery in August 2012 and eating less fiber and more protein. She was diagnosed with an internal hemorrhoid by rectal exam.
12/20/2012	Plaintiffs file civil action in the United States District Court for the southern district of West Virginia.

02/20/2013	TVPC-Patient presents with possible UTI, not using her Estrogen cream and also diagnosed with candidiasis. She is treated with Cipro and Nystatin powder.
10/11/2013	TVPC-Mrs. Gomez presents with urinary symptoms and vaginal pruritius for one week and needs her influenza vaccine. She has abdominal pain on the right side, back pain, and pain in the right flank area. Her UA is positive for leukocytes but negative for blood or nitrates. She is then treated with Macrobid and Diflucan.
04/21/2014	TVPC-Patient complains of bladder symptoms with fever and back pain. On exam: in no distress and has tenderness, entire abdomen with also right and left back CVA tenderness and is prescribed Bactrim. Cultures sent are positive for Klebsiella.
05/06/2014	TVPC-Returns to her family doctor feeling better since Bactrim but in the HPI is noted history of IC and chronic urethra pain but now feels more symptoms than usual with frequency. Still having burning sensation and that area hurts all the time. On exam, her abdomen only shows mild suprapubic tenderness "adnexa non-tender, adnexa normal". Bimanual exam "no masses, uterus absent, labia without lesions or masses, vag mucosa pink, no lesions".
09/29/2014	TVPC-Patient has urinary symptoms for three days and complains of light headedness and dizziness. She took AZO at home so the UA is unreliable and is treated with Bactrim DS.
11/11/2014	P TVPC- Mrs. Gomez presents with symptoms with UTI, fever, nausea, vomiting, and diarrhea. A UA is negative. The patient is give Zofran for her nausea, vomiting and Desitin cream for her anus.
12/12/2014	TVPC-Patient presents urinary symptoms for three days. The UA is only positive for leukocytes. She is empirically treated with Cipro.
08/20/2015	TVPC-She presents complaining of urinary symptoms. The UA is positive for possible blood but the patient had taken AZO. She is placed on Cipro empirically.

Impressions:

Using the provided medical chart information since 2001 we have at least 12 urinary tract infections (9 of them from 2006-2009). She is also diagnosed with 5 bouts of bronchitis as documented by the records of her family doctor. Also documented are at least 5 complaints of low back pain and/or frequency, urgency without evidence of a urinary tract infection and for which no specific antibiotic for UTI was given. At a minimum, this is consistent with a preoperative diagnosis of presumptive chronic cystitis and/or interstitial cystitis, pelvic and back pain.

After Dr. Ehsani performs her surgeries on Mrs. Gomez in October 2009 and December 2009, she only has 1 true documented Urinary tract infection after this until August 2012. She first presents on June 6th 2011 with bladder symptoms but a negative UA. She is empirically treated with Macrobid, but returns within one month with systemic symptoms and this time her UA is positive and she is treated with Cipro. In October of 2011, Dr. Bhatia performs trigger point injections for levator ani spasms, performs a cystoscopy with hydrodistension for the treatment of Interstitial Cystitis, and recommends she restart her Elmiron. From October 25th to December 27th 2011, eight bladder instillations are performed which improve Mrs. Gomez's bladder symptoms and dyspareunia. No other vaginal treatment was performed. Her pain with intercourse improved with only intra-vesical therapy. Mrs. Gomez was referred to pelvic floor therapy in order to continue improvement of her overall pelvic floor condition, but this did not occur.

It is not until after she undergoes a gastric sleeve surgery to lose weight in which they inserted a Foley catheter in August of 2012 that her urinary symptoms return. Notably, she also had stopped her Elmiron 2 months prior to her surgery and had stopped her vaginal estrogen cream sometime before February 2013. There are 8 episodes of urinary symptoms for which she is treated with antibiotics from February 2013 until august 2015, the last available medical records.

It is clearly evident by Mrs. Gomez's various medical records, not only from her family physician but also from her urologist, that her bladder symptoms predate her surgery with Dr. Ehsani. It is unfortunate that the recommendations made for antibiotic prophylaxis 2 to 3 times per week or with intercourse, by the urologist back in 2007 were not followed. This may have lessened the urothelial damage caused by those frequent UTIs and lessen the nociceptive response to even a normal stimuli & associated pelvic discomfort. Even in 2001 when seen for a possible Urinary tract infection, she mentions having "abdominal pains sometimes".

Also mentioned is pre-existing pain with intercourse, first mentioned to her ob/gyn in 2003, then again at a visit where she complains of feeling like something is dropping, hard time emptying bladder & bowels, painful intercourse. It is then noted that she has never been pain free, also having abdominal & back pain. When she does meet Dr. Ehsani, she reports dyspareunia upon entrance and deep. Her bowel symptoms were also present before her hysterectomy, Posterior Prolift+M and TVT-O surgeries. She had been manually assisting defecation for years, which is frequently associated with a worsening rectocele. All of these predate her pelvic floor surgery.

This is also in agreement with Dr. Ostergard's expert report in which he states "At the time of the implantation of the Posterior Prolift+M and the TVT-O devices, Ms. Gomez was a 42 year old non-smoking mother of 2 children with the following medical and surgical medical history: cholecystectomy, tonsillectomy, hypertension, urinary frequency, recurrent UTI's and

pyelonephritis, stress urinary incontinence and overactive bladder symptoms, vaginal bulging, rectal splinting, outlet and deep dyspareunia, constipation, difficulty emptying bladder and rectum, urinary hesitancy, abddomial and back pain, levator ani pain, pelvic pain with sitting, costochrondritis, remal calculus and papillary necrosis."

Dr. Ehsani was well within the standard of care in performing a vaginal hysterectomy associated with a rectocele repair and colpopexy using Posterior Prolift+M for a Stage III prolapse and a midurethral sling using TVT-O. Dr. Ehsani did meet all of the recommendations of the 2008 FDA Public Notification. She did obtain specialized training during her fellowship, was vigilant for potential adverse events and took care of Mrs. Gomez's voiding dysfunction. She did discuss of the risks of acute and chronic pain, pain with intercourse (both of which can be refractory to treatment), disturbance in bladder and bowel function, erosion and chronic inflammation and the need for future surgery, twice documented before Mrs. Gomez's surgery. Included was counseling regarding alternative non-surgical therapies as well as prognosis with no intervention, discussed and documented twice before Mrs. Gomez's surgery. The risks using endogenous tissue versus the use of graft insertion (mesh) were specifically reviewed. The patient was informed of the potential for improved durability, specifically mentioned is the fact that no long-term studies are still not available, the relatively limited medical data comparing native tissue repairs to transvaginal synthetic graft repairs to date and that some physicians consider their use to be lacking sufficient "scientific" medical evidence. This was discussed and documented twice before Mrs. Gomez's surgery. Twice documented as well was the desire to proceed with the recommended surgery, appropriate consent obtained and all questions answered. Mrs. Gomez did admit receiving Ethicon's patient brochures. It is evident that Mrs. Gomez was given sufficient information to be able to make an informed decision about her heath care before October 22nd 2009. On the day of her surgery, another consent form for surgery certifying that Mrs. Gomez had read & understood completely the information on the consent to procedure or surgery.

Performing a vaginal hysterectomy in a 42 year old woman for a stage II uterine prolapse, during the process of pelvic floor surgery in a patient who has admitted to painful cycles and does not want further children, is well within the standard of care and promoted by the American College of Obstetrics and Gynecology (ACOG). Performing this hysterectomy was not in itself intended to correct her previous dyspareunia, and new onset of pain/painful intercourse is well reported after hysterectomy as well.

Performing a Posterior Prolift+M which would correct all 3 Delancey levels of suspension from the perineum to the apex of the vagina at the level of to the sacrospinous ligaments was also within the standard of care in 2009. The fact that postoperatively, as documented by Dr. Ehsani and Dr. Bhatia, there was good support of the posterior vaginal at all 3 levels as well as a preserved vaginal length (measured to be either 0.5 cm less or same as pre-op) demonstrates that the Posterior Prolift+M has been effective. Dr. Bhatia noted that there was only minimal scarring

in the posterior vaginal wall and the mesh did not feel taught. This demonstrates normal healing that would occur after any hysterectomy and rectocele/posterior repair. The fact that during Dr. Bhatia's examination there was no pain documented in the posterior vagina and that the rectum was non-tender, confirm the absence of involvement of the Prolift+M in the etiology of her painful symptomatology. What was found was diffuse bilateral levator ani spasm. This, along with her interstitial cystitis are the most likely major contributors to Mrs. Gomez's pain.

Pelvic floor muscle spasms increase the likelihood of fecal and urinary dysfunctions. Given the fact that the patient does not have a rectocele anymore, confirming the effectiveness of the Prolift+M, Mrs. Gomez's need to continue assisting defecation, which pre-dated her surgery, by splinting or fingering cannot be blamed on a failure of the Prolift+M. There is no evidence of constriction form the Prolift+M mesh or the arms of the mesh onto the recto-sigmoid. Had this occurred, on rectal exam the anterior rectum would be found to be compressed and the mesh would be palpable as a tight, possibly painful band. Mrs. Gomez had been having constipation for years which she relieved by drinking herbal teas. The fact that Mrs. Gomez has to strain abnormally and assist is typical of paradoxical levator ani contraction at the time of defecation associated with pelvic floor dysfunction. It is also important to remember that bariatric surgery will alter a patient's diet and ability to digest, process food and colonic motility. Patients have a restrictive diet with less fiber and do experience bouts of diarrhea and/or constipation depending on the foods they ingest and their compliance with the post bariatric diet. This is evident from the patient's visit to her family doctor 2 months after her gastric sleeve surgery, complaining of rectal bleeding after trying enemas multiple times. Her constipation occurred despite Colace twice a day, ex-lax tablets and several enemas.

Performing a midurethral sling using TVT-O during the course of surgery for a patient with stress urinary incontinence along with concomitant pelvic prolapse repair is absolutely within the standard of care. Many urogynecologists will perform anti-incontinence surgery in women without overt stress incontinence but who manifest occult SUI. In the performance of sacrocolpopexy, even without occult SUI, it is recommended to perform concomitant anti-incontinence surgery as the incidence of associated post-operative stress urinary incontinence is 40-60%. This is now a consideration while performing vaginal prolapse repair and further studies are underway. According to the AUGS and SUFU, synthetic midurethral slings are the new gold standards for treating stress urinary incontinence (Nager, 2014). It is also standard of care to proceed with a midurethral sling in women with complaints of mixed (SUI & UUI) incontinence. Over 3 million synthetic sling procedures have been performed worldwide. The fact that voiding dysfunction occurred post-operatively after a TVT-O does not mean that the sling is defective. The choice of a transobturator approach was most appropriate for Mrs. Gomez, as the retropubic approach would have resulted in an increased risk of retention and increased supra-pubic pain compared to the transobturator approach. The risk of retention and voiding dysfunction would have been even greater if a Burch or traditional pubovaginal sling would have been performed. The fact that this is an infrequent occurrence does not reflect on the quality of the product, the

surgical procedure or the surgeon. In my opinion, what also contributed to her voiding difficulties are her chronic pelvic symptoms, interstitial cystitis and levator ani spasms. The management of Mrs. Gomez's postoperative incomplete bladder emptying was appropriately conducted by sectioning the sling mesh midline, which resolved her incomplete bladder emptying while still providing support to the peri-urethral fascia, continuing to provide relief from stress urinary incontinence. The fact that a voiding dysfunction issue occurred, does not mean faulty material or technology. The simple vaginal palpation of a sling mesh due to a thinned out vaginal mucosa, without discomfort is not a complication. It is also not a precursor to vaginal mesh erosion and asymptomatic mesh does not need removal.

Mrs. Gomez's pain symptoms improved after pelvic trigger point injections, cystoscopy with hydrodistension and bladder instillations as well as Elmiron. If the mesh (Prolift+M or TVT-O) had been the cause, none of these treatments would have produced any change in her symptomatology. The fact that even intercourse was improved after bladder instillations, shows what most urogynecologists and urologists know: that the bladder & urethra are intimately related to the vagina.

The fact that Mrs. Gomez continues to have dyspareunia is multifactorial owing to chronic back pains documented as far back as February 2003, working in an assembly line and lifting heavy and standing on her feet all day. This may have contributed to lumbo-sacral plexus dysfunctions, enhancing pelvic muscle spasms. Her motor vehicle accident in July 2011, may have contributed to her symptomatology as she did complain of low back pain. Even though the X-rays showed no fracture or miss-alignment, the ligaments, tendons and pelvic floor muscles could have been strained. Her continued dyspareunia is also caused by interstitial cystitis which has a high association with the prevalence of myofascial pain and pelvic floor dysfunctions (Bassaly, 2010), that were pre-existing well before her index surgery in 2009. These conditions are managed with medical adjunctive modalities along with specialized physical therapy, for which she was referred, but has not pursued this therapy.

In my practice, I refer 2 to 10 patients per week to pelvic floor therapy for the management of chronic pelvic pain, dyspareunia, voiding or defecation problems associated with levator ani muscle spasms and/or sacroiliac pain. Some of these patients have had a hysterectomy performed in the past for pain but are seeing me for persistent pain, and certainly, the majority of these women have never had any vaginal mesh surgery.

The fact that Mrs. Gomez cannot afford her copay is testimony that her health insurance along with the American healthcare system needs improvement. Without an active engagement in her therapy, since Mrs. Gomez has not sought any treatment for her various urinary, pelvic and back symptoms, which started well before her index surgery, she will continue to be symptomatic. Her

history of recurrent urinary tract infections and interstitial cystitis are also prominent in the etiology of her pain. Again it is unfortunate that antibioprophylaxis was not initiated sooner or that her bladder symptoms were not evaluated earlier as well.

There is no evidence of prior, or current mesh infection and no literature supporting that Mrs. Gomez's vaginal or sling mesh would spontaneously become infected after more than 5 years undisturbed. There is also no evidence that Mrs. Gomez currently suffers from vaginal cancer and there is no literature documenting any vaginal cancer caused by polypropylene mesh in women.

In the 2008 Prolift patient material, complications associated with his procedure are listed and include injury to blood vessels in the pelvis, difficulty urinating, pain, scarring, pain with intercourse, bladder and bowel injury. "Synthetic mesh is a permanent medical device implant therefore you should carefully discuss the decision to have surgery with your doctor and understand the benefits and risks of mesh implant surgery before deciding how to treat your condition". The communication of these risks and benefits appears to be reasonable, comprehensive and proper. Materials like this cannot summarize the vast body of available medical literature, and it is up to the operating surgeon, consistent with his or her training, experience, continuing education and literature reading, to come to a judgment about their own capabilities and what is best for their individual patient and have an informative discussion with her.

We also know that in October 2008, before Mrs. Gomez's surgery, the FDA issued a Public Health Notification on serious complications associated with transvaginal placement of surgical mesh in repair of pelvic organ prolapse and stress urinary incontinence. Dr. Ehsani would surely have been aware of this. Recommendations include that physicians obtain specialized training (which Dr. Ehsani had already done), be vigilant for the potential adverse events from the mesh and inform patients (which she did, twice) that implantation of surgical mesh is permanent and that some complications associated with the implanted mesh may require additional surgery that may or may not correct the complication. Inform patients about the potential of serious complications and their effect on the quality of life, including pain during sexual intercourse, scarring, and narrowing of the vaginal wall. Lastly, provide patients with a written copy of patient labeling from the surgical mesh manufacture if available (which Mrs. Gomez attests to in her deposition). These were the responsibilities of the surgeon.

The process of counselling and discussion of these was performed by Dr. Ehsani, on at least 2 separate occasions and Mrs. Gomez initialed these consent forms line by line.

What is known is that all surgeries will initiate an inflammatory response and eventual tissue remodeling and scarring. As surgeons we know this from medical school, from our residency training and our own surgical experiences. As graft material was developed first for abdominal hernia repair then used for sacrocolpopexy and finally introduced vaginally, the risks associated with each type, biological or synthetic, have been well described. Performing surgery is always a balance between risks and benefits and there are no risk-free surgeries. What we do not know is how a particular patient will react to a particular procedure or implant. The Posterior Prolift+M system did offer advantages of shorter surgical times for combined posterior and apical support, eliminating the need for difficult suturing compared to vaginal Sacrospinous fixation or McCalls culdoplasty. Further, the durability of mesh repairs, such as Prolift & Prolift+M, provide surgeons with a level of predictability and consistency over native tissue repairs, which rely on sewing together damaged tissues. The TVT-O system did offer the advantages of shorter surgical time and less morbidity associated with the traditional pubovaginal sling or Burch procedure. The midurethral slings are considered first line surgical option for the management of SUI (Garely, 2014) and the procedure of choice when performing concomitant vaginal surgery (Schimpf, 2014).

Pelvic floor and incontinence surgery has always carried a risk of dyspareunia, pain as well as voiding issues, and these risks were acceptable by both Dr Ehsani and by Mrs. Gomez. The fact that Dr. Ehsani chose a mesh repair over native tissue repair for the posterior compartment, knowing the potential additional risks and the FDA notification regarding transvaginal mesh surgery, for a symptomatic prolapse below the hymen, is not below the standard of care in 2009.

Was the Posterior Prolift+M the cause of that dyspareunia, constipation, pelvic floor dysfunction, back and pelvic pain? The answer is no. These symptoms were present well before her index surgery in 2009. This is also corroborated by Dr. Bhatia's physical examination where she finds minimal scarring in the posterior vaginal wall, that the mesh is not under tension and that the rectum is not tender on digital exam. There is no mesh exposure. Any pain resulting from the Prolift+M mesh or its arms through the sacrospinous ligaments would have provoked severe pain upon slightest touch. What is significant are findings of diffuse levator ani muscle spasm and the bladder is tender. So no, the Prolift+M did not cause Mrs. Gomez's pain or dyspareunia.

Did the TVT-O cause her chronic UTI, interstitial cystitis, dyspareunia, pelvic floor dysfunction or her back and supra-pubic pain? The answer is no. These symptoms were present well before her index surgery in 2009 and although the interstitial cystitis was diagnosed after her TVT-O, many of the symptoms were present prior to her surgery in 2009. Although TVT-O may be associated with groin pain, it is the retropubic approach that is associated with suprapubic pain. In in this case Mrs. Gomez has never complained of groin pain. The mere fact that a portion of the sling is palpable underneath the thinned vaginal mucosa in the region of the left anterolateral sulcus is not in itself relevant as there is no mention of any discomfort in that area. What is

significant is her painful bladder along with the exquisite tenderness of the urethral mucosa evident upon catheterization that Dr. Bhatia performed at her first visit. This caused such discomfort that Dr. Bhatia decided to reschedule Mrs. Gomez's pelvic floor exam and is indicative of urethral mucosal nociceptive issue and not due to the TVT-O, as the mesh is adjacent to the external peri-urethral tissue.

Mrs. Gomez had poor pelvic support tissue as demonstrated by her Sated III multi-compartment prolapse and had Stress Urinary Incontinence. The last documented vaginal exam provided by the plaintiffs' dates back to Oct 4th 2011, and actually show that she has good support. Thus, the choice of the Posterior Prolift +M for the surgical correction of her stage III posterior prolapse and apical prolapse was appropriate. The choice of TVT-O which resolved her SUI was appropriate, and that both products performed well. By the time of Mrs. Gomez's 2009 surgery, both TVT-O and Prolift+M were cleared by the FDA and were appropriate for the treatment of her conditions. The fact that her dyspareunia persisted does not mean that the mesh in itself is bad or defective.

It is my opinion to a reasonable degree of medical certainty that the Posterior Prolift+M and TVT-O were appropriate and effective options for Mrs. Gomez.

I reserve the right to amend my opinions pending reception of additional medical records, pharmacy records, deposition transcript, expert reports as well as an IME. It would be beneficial if I had the opportunity to perform a medical examination of Mrs. Gomez.

Julie Drolet, MD

Date: March 1, 2016